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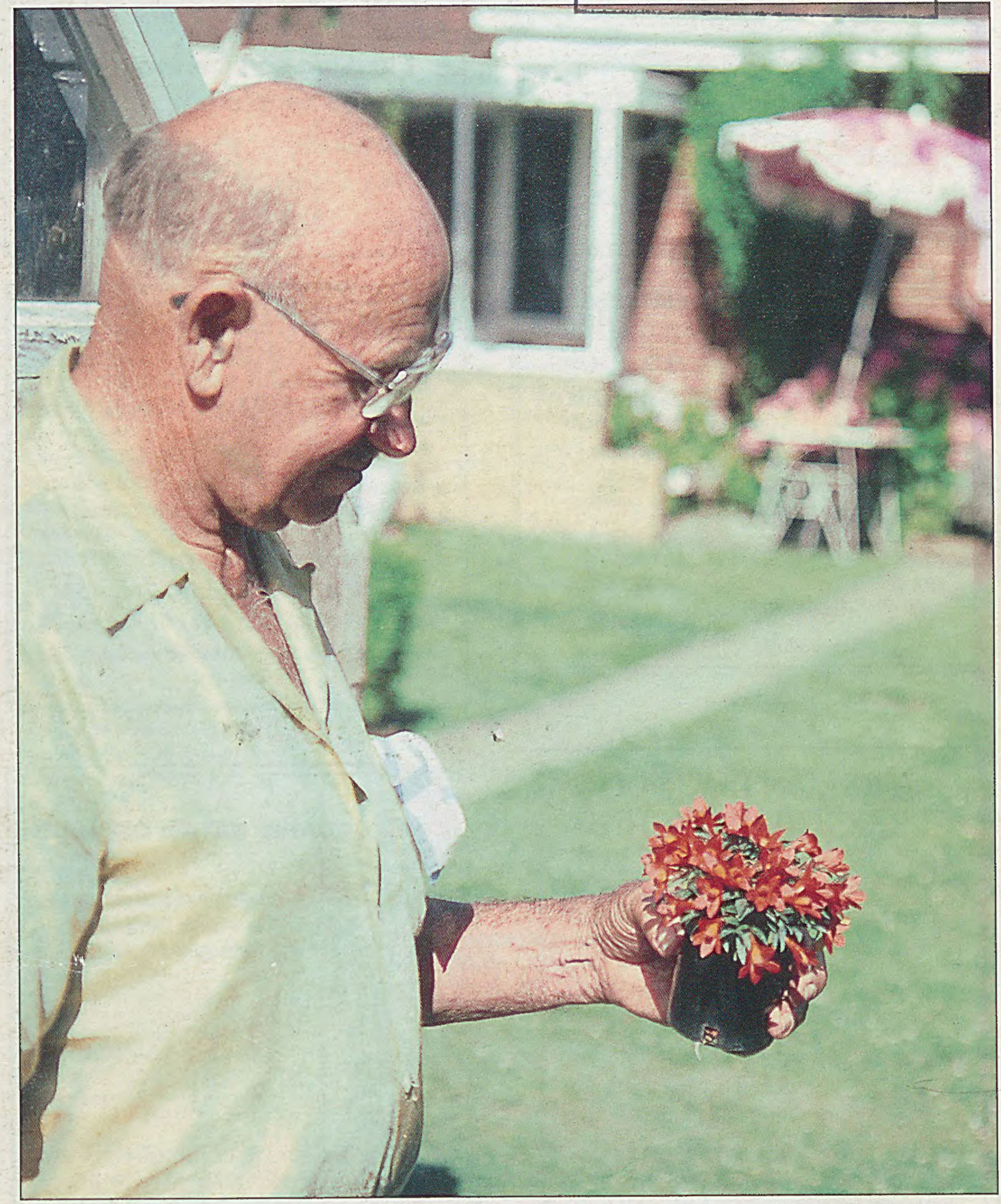

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Gerald McCraith holding *Maccraithea cuthbertsonii*

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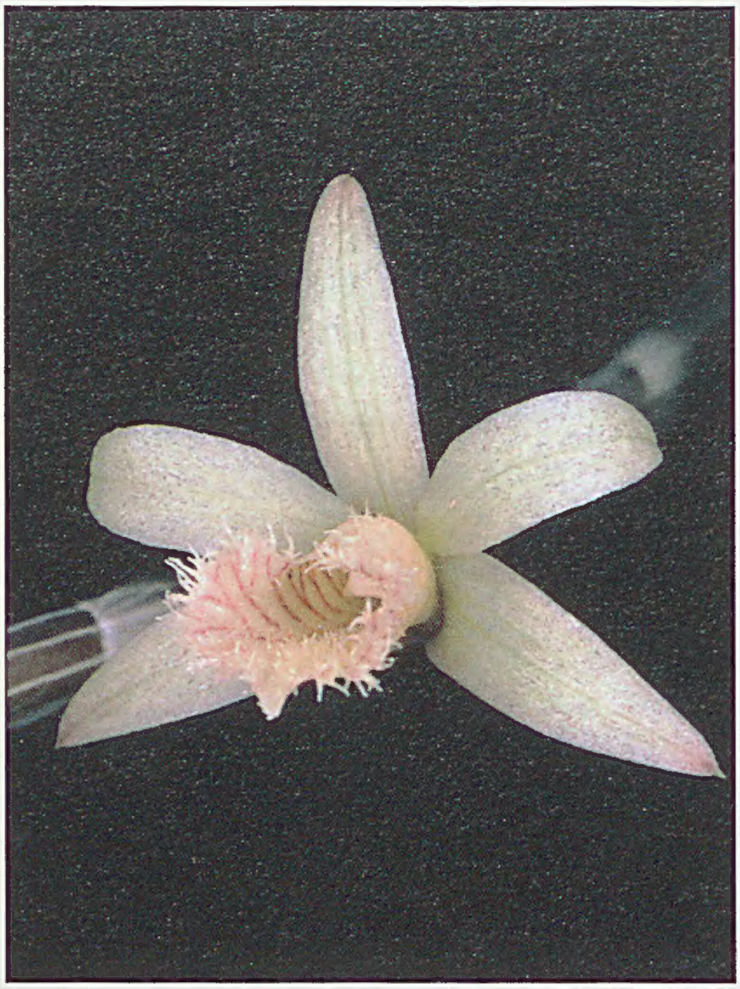

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Dendrobium stuartii

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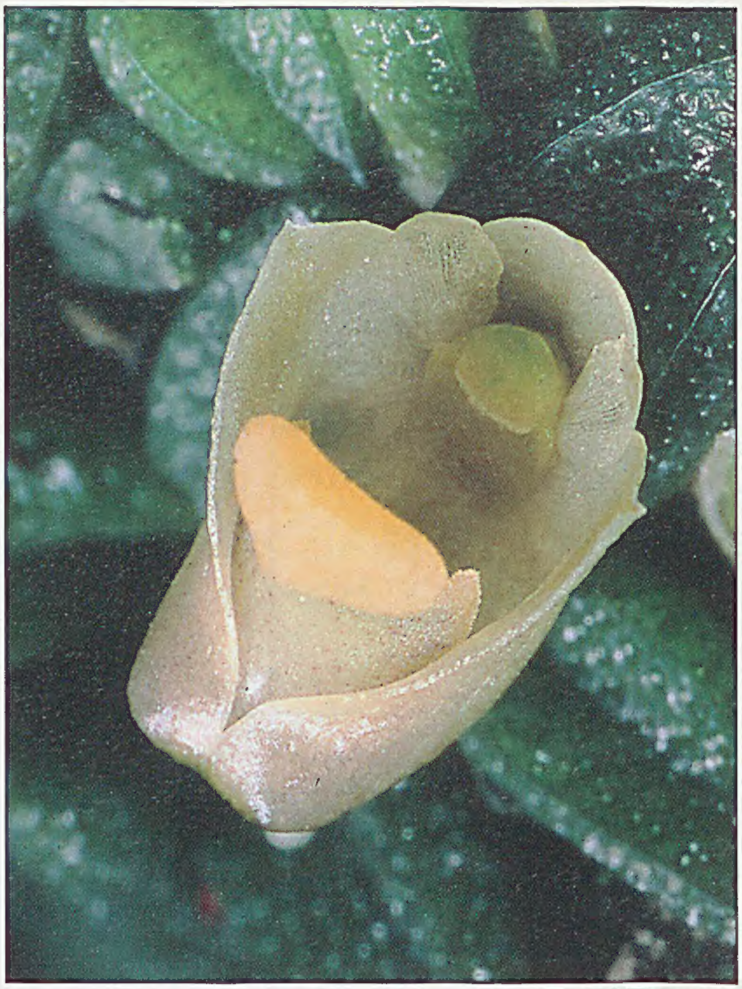

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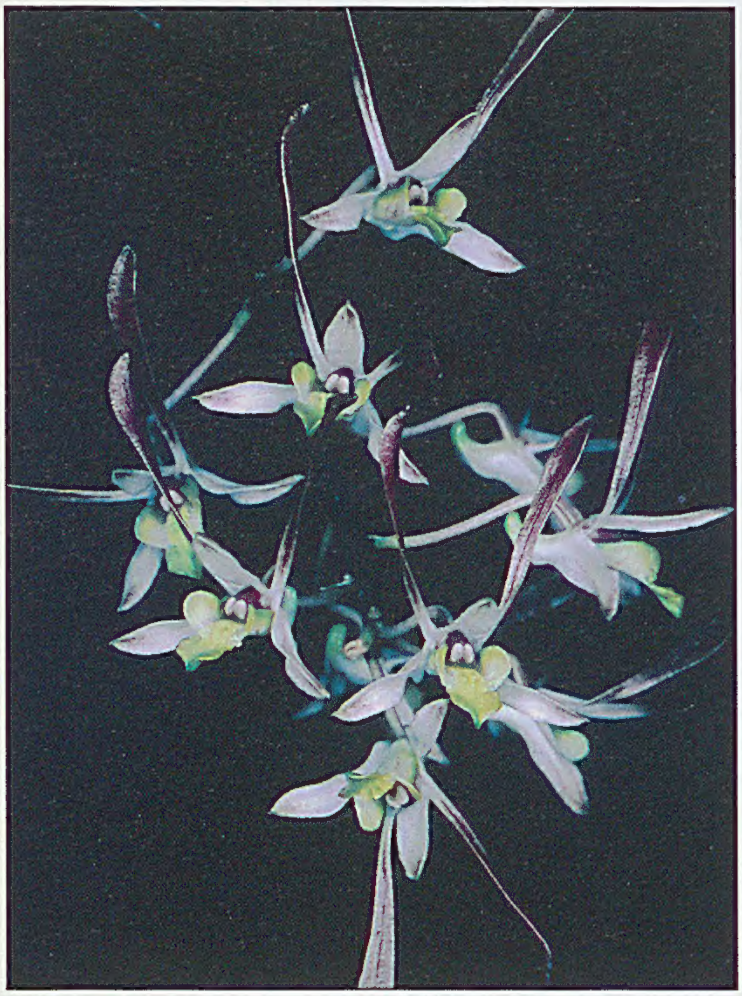
Stelbophyllum toressae

from North Queensland



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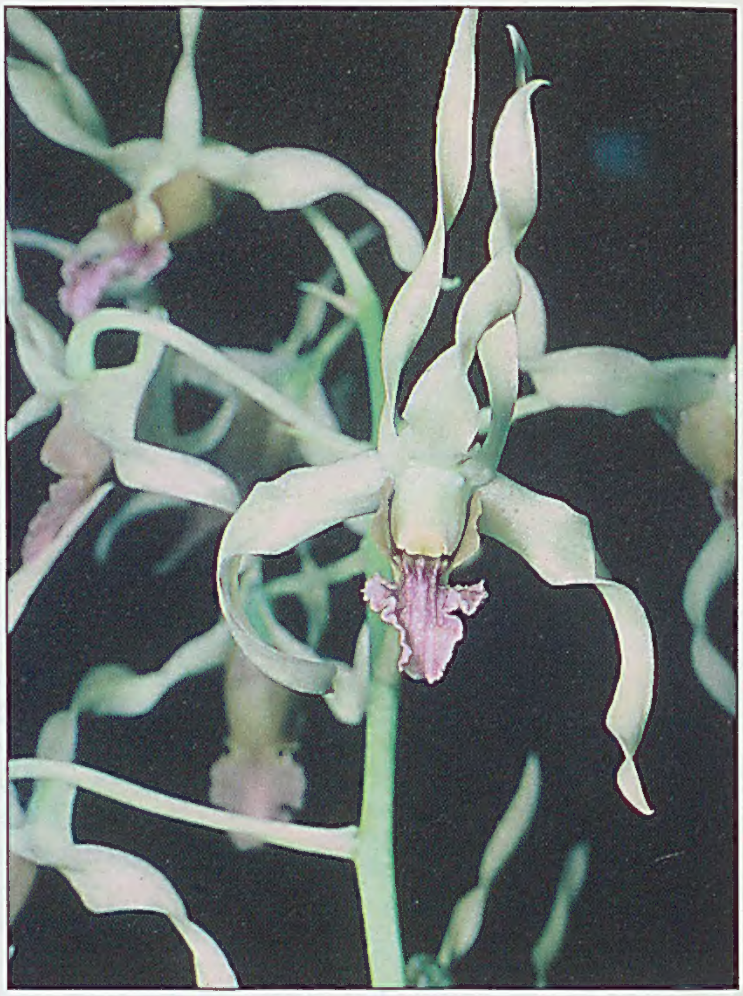
Cepobaculum carronii

from North Queensland and New Guinea



David Titmuss

Durabaculum crispilinguum

from New Guinea

Nomenclatural Changes in the Dendrobieae (Orchidaceae) 1: The Australasian Region

a 201790

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Abstract

New combinations are made in segregate genera recognised within the Australasian Dendrobieae resulting from detailed morphological and molecular studies, which will be published elsewhere. The genera *Australorchis, Ceraia, Sayeria, Tropilis* and *Thelychiton* are accepted or re-instated; six sections and one subsection *Aporopsis, Ceratobium, Distichophyllum* (as *Distichorchis*), *Eleutheroglossum, Oxyglossum* (as *Oxyglossellum*), *Platycaulon* (as *Eurycaulis*) and *Sarcocadetia* are raised to generic status within the tribe; and *Abaxianthus, Bouletia, Cepobaculum, Davejonesia, Dendrobates, Durabaculum, Leioanthum, Stelbophyllum, Tetrabaculum* and *Vappodes* are described as new. The hybrid genus X *Vappaculum* is created to accommodate natural hybrids between *Vappodes* and *Durabacalum*. Three sections of *Dendrobium sens. lat.* from New Guinea are also raised to generic rank, *viz.* sections *Calyptrochilus* (as *Chromatotriccum*), *Pleianthe* (as *Exochanthus*) and *Cuthbertsonia* (as *Maccraithea*).

Introduction

Detailed morphological and molecular studies have shown that new generic limits are required in the Dendrobiinae. A detailed paper on the group is in preparation but in the light of recent taxonomic activities of Polish workers (Szlachetko 2001, Szlachetko and Margonska 2001), it has been decided to make the necessary nomenclatural transfers prior to the submission of these more detailed papers.

TAXONOMY

Subtribe: Dendrobiinae Lindl., *Gen. Sp. Orch. Pl.* 45 (1830) (as Section II. Dendrobieae). Type species: *Dendrobium* Sw., *fide* Butzin (1971: 323).

1. *Abaxianthus* M.A.Clem. et D.L.Jones, ***gen. nov.***; affinis *Flickingeriae* A.D.Hawkes, sed rhizomatibus reptantibus, pseudobulbo 1-nodo quisque terminanti; folio singulari, coriaceo; inflorescentia determinata, ad folium abaxiale nascenti, e lacuna obtecta in pseudobulbo; flore singulari; et apice labelli bilobo, differt. Type species: *Desmotrichum convexa* Blume

New combination:
Abaxianthus convexus (Blume) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Desmotrichum convexum* Blume, *Bijdr.* 1: 330 (1825).

2. *Aporopsis* (Schltr.) M.A.Clem. et D.L. Jones, ***gen. et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Rhopolanthe* Schltr. subsect. *Aporopsis* Schltr. *Repert Spec. Nov. Regni Veg. Beih.* 1: 565 (1912). Type species: *Dendrobium macfarlanei* F.Muell., here designated (see below).

New combinations:
Aporopsis macfarlanei (F.Muell.) M.A.Clem. et D.L. Jones, ***comb. nov.***
Basionym: *Dendrobium macfarlanei* F.Muell., *Papuan Pl.* 1: 29 (1875).

Aporopsis litoralis (Schltr.) M.A.Clem. et D.L. Jones, ***comb. nov.***
Basionym: *Dendrobium litorale* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 567 (1912).

3. *Australorchis* Brieg. in Schltr., *Die Orchideen* 3(1): 741 (1981). Type species: *Dendrobium monophyllum* F.Muell.

New combinations:
Australorchis carrii (Rupp et C.T.White) D.L.Jones et M.A.Clem., ***comb. nov.***
Basionym: *Dendrobium carrii* Rupp et C.T.White, *Queensland Naturalist* 10: 26, t. 2 (1937).

Australorchis eungellensis D.L.Jones et M.A.Clem., ***nom et stat. nov.***
Basionym: *Dendrobium schneiderae* F.M.Bailey var. *major* Rupp, *Queensland Naturalist* 11: 3 (1939).

4. *Bouletia* M.A.Clem. et D.L.Jones, ***gen. nov.***, affinis *Cannaeorchidi* M.A.Clem. et D.L.Jones, sed habitu epiphytico; caulibus determinatis, versus apicem angustatis; labello non-articulato; mid-lobo labelli columna conjuncta, formanti fistulam nectariferam papillis longis exilibus, differt. Type species: *Dendrobium finetianum* Schltr.

New combination:
Bouletia finetiana (Schltr.) M.A.Clem.et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium finetianum* Schltr., *Bot. Jahrb.* 39: 73 (1906).

5. *Cepobaculum* M.A.Clem. et D.L.Jones, ***gen. nov.*** affinis *Thelychitoni* Endl., sed pseudobulbis ampulliformibus vel fusiformibus; foliis linearibus, canaliculatis, succulentis; petalis spathulatis, contortis; labello cristis callosis centralis principalibus 3 vel 5; et calcari brevi labelli basim columnae conjuncto, differt. Type species: *Dendrobium canaliculatum* R.Br.

New combinations:
Cepobaculum capra (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium capra* J.J.Sm., *Bull. Dep. Ind. Neerl.* 43: 52-54, t. 5, f. 3 (1910).

Cepobaculum canaliculatum (R.Br.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium canaliculatum* R.Br., *Prod.* 333 (1810).

Cepobaculum carronii (Lavarack et P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium carronii* Lavarack et P.J.Cribb, *Austrobaileya* 1(5): 497-501, f. 40 (1982).

Cepobaculum foelschei (F.Muell.) M.A.Clem. et D.L.Jones, ***comb. nov***
Basionym: *Dendrobium foelschei* F.Muell., *S. Sci. Rec.* 2: 230 (1882)..

Cepobaculum johannis (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium johannis* Rchb.f., *Gard. Chron.* 1865: 890 (1865).

Cepobaculum semifuscum (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium johannis* Rchb.f. var. *semifuscum* Rchb.f., *Gard. Chron.* 1883: 368 (1883).

Cepobaculum tattonianum (Bateman ex Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium tattonianum* Bateman ex Rchb.f., *Gard. Chron.* 1865: 890 (1865).

Cepobaculum trilamellatum (J.J.Sm.) M.A.Clem.et D.L. Jones, ***comb. nov.***
Basionym: *Dendrobium trilamellatum* J.J.Sm., *Bull. Dep. Agric. Ind. Neerl.* 19: 21 (1908).

6. *Ceraia* Lour., *Fl. Cochinch.* 2: 518 (Sept. 1790) (as "*Ceraja*"). Type species: *Ceraia simplicissima* Lour.
New combination:
Ceraia saaronica (Koen.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Epidendrum saaronicum* Koen. in Retz., *Obs.* 6: 58 (1791).
Dendrobium crumenatum Sw. in Schrad., J. Bot. 2: 237 (1799).

7. *Ceratobium* M.A.Clem. et D.L.Jones, ***gen et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Ceratobium* Lindl. in Edwards, *Bot. Reg.* 30: misc. 62 (1844). Type species: *Dendrobium antennatum* Lindl.
New combinations:
Ceratobium antennatum (Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium antennatum* Lindl. in Hook., *Lond. J. Bot.* 2: 236 (1843).

Ceratobium bicaudatum (Reinw. ex Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium bicaudatum* Reinw. ex Lindl., *J. Linn. Soc.* 3: 20 (1859).

Ceratobium brevimentum (P.J. Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium brevimentum* P.J. Cribb, *Kew Bull.* 41(3): 638-39, f. 3 (1986), *non* Seidenf. (1985).

Ceratobium dalbertisii (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium d'albertisii* Rchb.f., *Gard. Chron.* (new ser.) 9: 366 (1878).

Ceratobium devosianum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium devosianum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 36: 113-114 (1934).

Ceratobium laxiflorum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium laxiflorum* J.J.Sm., *Bull. Jard. Bot. Buit.* (ser. 3) 12: 135-36 (1932).

Ceratobium leporinum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium leporinum* J.J.Sm., *Nova Guinea* 13: 68-69, t. 24, f. 75 (1909).

Ceratobium minax (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium minax* Rchb.f., *Xenia Orchid.* 2: 129, t. 145 (1868).

Ceratobium stratiotes (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium stratiotes* Rchb.f., *Gard. Chron.* (new ser.) 25: 266 (1886); *Gard. Chron.* 1886(2): 177, t. 34 (1886).

Ceratobium strebloceras (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium strebloceras* Rchb.f, *Gard. Chron.* (new ser.) 25: 266 (1886).

Ceratobium strepsiceros (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium strepsiceros* J.J.Sm., *Nova Guinea* 12: 49-50, t. 14, f. 39 (1913).

Ceratobium taurulinum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium taurulinum* J.J.Sm., *Bull. Jard. Bot. Buit.* (ser. 3) 2: 72-73 (1920).

8. *Davejonesia* M.A.Clem., ***nom. et stat. nov.***
Basionym: *Dockrillia* Brieger sect. *Lichenastrum* Brieger in Schltr., *Die Orch.* (ed. 3) 1: 746 (1981). Type species: *Dockrillia lichenastrum* (F.Muell.) Brieger

New combinations:
Davejonesia aurantiacopurpurea (Nicholls) M.A.Clem., ***comb. nov.***
Basionym: *Dendrobium aurantiaco-purpureum* Nicholls, *North Queensland Naturalist* 10(68): 2 (1942).

Davejonesia lichenastra (F.Muell.) M.A.Clem., ***comb. nov.***
Basionym: *Bulbophyllum lichenastrum* F.Muell., *Fragm.* 7: 60 (1869).

Davejonesia prenticei (F.Muell.) M.A.Clem., ***comb. nov.***
Basionym: *Bulbophyllum prenticei* F.Muell., *S. Sci. Rec.* 1: 173 (1881).

9. *Dendrobates* M.A.Clem. et D.L.Jones, ***gen. nov.***
affinis *Cannaeorchidi* M.A.Clem. et D.L.Jones,
sed habitu epiphytico; rhizomatibus scandentibus; radicibus aerialis; pedunculo succulento; labello spathulato, medilobo prominenti lunatidilatato et cristis prominentibus callosis 2; basi labelli angustata et concolumna formanti fistulam nectariferam, differt.
Type species: *Dendrobium virotii* Guillaumin
New combination:
Dendrobates virotii (Guillaumin) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium virotii* Guillaumin, *Not. Syst.* 10(2): 59-63 (1941).

10. *Distichorchis* M.A.Clem. et D.L.Jones, ***nom. et stat. nov.***
Basionym: *Dendrobium* Sw. *sect. Distichophyllum* Hook.f., *Fl. Brit. India* 5: 711 (1890). Type species: *Dendrobium uniflorum* Griffith, *fide* Brieger (1981).

New combinations:
Distichorchis cerina (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cerinum* Schltr., *Bot. Jahrb.* 39: 72 (1906), *non* Rchb.f. (1879).

11. *Durabaculum* M.A.Clem. et D.L.Jones, ***nom. et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Strebloceras* Schltr. in K. Schum. et Laut., *Fl. Schutzg. Sudsee, Nachtr.* 165 (1905). Lectotype species: *Dendrobium undulatum* R. Br., here designated.

New combinations:
Durabaculum albertisiana (F.Muell.) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium undulatum* R. Br. var. *albertisiana* F.Muell., *Des. Not. Papuan Pl.* 72-73 (1875).

Durabaculum amboinense (Rolfe) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium taurinum* Lindl. var. *amboinense* Rolfe, *Orchid Rev.* 5: 304 (1897).

Durabaculum andersonianum (F.M.Bailey) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium andersonianum* F.M.Bailey, *Queensland Agric, J.* 9: 412 (1901).

Durabaculum arachnanthe (Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium arachnanthe* Kraenzl. in Engl., *Pflanzenr. Orch.-Mon.-Dendr.* 1: 152 (1910).

Durabaculum bandaense (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium bandaense* Schltr., *Bull. Herb. Boiss.* 2 (ser.) 6: 453 (1906).

Durabaculum busuangense (Ames) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium busuangense* Ames, *Orchid* 6: 296-97, t. 101 (1920).

Durabaculum calophyllum (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium calophyllum* Rchb.f., *Xenia Orch.* 2: 167-68 (1870).

Durabaculum cochliodes (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cochliodes* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 545-46 (1912) & *Fig. Atlas* . t. 184, f. 689 (1923-28).

Durabaculum conanthum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium conanthum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 550-51 (1912) & *Fig. Atlas* t. 185, f. 695 (1923-28).

Durabaculum crispilinguum (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium crispilinguum* P.J. Cribb, *Orchid. Rev.* 88: 145 (1980); *Orchadian* 6(8): 178, f. (30 June 1980).

Durabaculum fimbrilabium (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium undulatum* R.Br. var. *fimbrilabium* Rchb.f., *Gard. Chron.* (new ser.) 9: 40 (1878).

Durabaculum fuscum (Fitzg.) M.A.Clem.et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium fuscum* Fitzg. in *Sydney Morning Herald* (24 Sep. 1879) & Gard. Chron. (new ser.) 12: 680 (1879).

Durabaculum gouldii (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium gouldii* Rchb.f., *Gard. Chron.* 1867: 901 (1867).

Durabaculum hamiferum (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium hamiferum* P.J.Cribb, *Orchadian* 6(12): 274, t. 2 (1981).

Durabaculum helix (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium helix* P.J.Cribb, *Orchid Rev.* 88: 143 (1980); *Orchadian* 6(8): 174. f. (30 June 1980).

Durabaculum hornei (S.Moore ex Baker) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium hornei* S.Moore ex Baker, *J. Linn. Soc.* 20: 373 (1883).

Durabaculum imthurnii (Rolfe) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium imthurnii* Rolfe, *Bull. Misc. Info. Kew* 1912: 131, 206, 352-53 (1912); *Bot. Mag.* 138, t. 8452 (1912).

Durabaculum ionoglossum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium ionoglossum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 551 (1912) & *Fig. Atlas* t. 186, f. 696 (1923-28).

Durabaculum jennyanum (Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium jennyanum* Kraenzl., *Gard. Chron.* 1896, 2: 329 (1896).

Durabaculum kajewskii (Ames) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium kajewskii* Ames, *J. Arn. Arb.* 13: 131-132 (1932).

Durabaculum kennedyi (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium kennedyi* Schltr., *Repert Spec. Nov. Regni Veg.* 17: 374 (1921).

Durabaculum kolposense M.A.Clem. et D.L.Jones, ***nom. nov.***
Basionym: *Dendrobium odoardi* J.J.Sm., *Nova Guinea* XIV: 419-420, t. LXV, f. 71 (1932), *non* Kraenzl. (1910).

Durabaculum lasiantherum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium lasianthera* J.J.Sm., *Repert. Specv. Nov. Regni Veg.* 31: 78-80 (1932).

Durabaculum macranthum (A.Rich.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium macranthum* A.Rich., *Sert. Astrol.* 2: 15-17, t.6 (1832).

Durabaculum magistratum (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium magistratus* P.J.Cribb, *Orchadian* 6(12): 274 (1981).

Durabaculum mirbelianum (Gaud.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium mirbelianum* Gaud. in Freycinet, *Voy. Uranie* 423, t. 38 (1826).

Durabaculum nindii (W.Hill) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium nindii* W. Hill in *Votes & Proc. Legis. Ass. Qd. Session* 2: 871 (1874); *Rep. Bris. Bot. Garden* 7 (1874).

Durabaculum odoardi (Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium odoardi* Kraenzl. in Engl., *Pflanzenr. Orch.-Mon.-Dendr.* 1: 157 (1910).

Durabaculum okabeanum (Tuyama) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium okabeanum* Tuyama, *J. Jap. Bot.* 17(9): 512-515, f. 13a (1941).

Durabaculum percnanthum (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium percnanthum* Rchb.f., *Gard. Chron.* 1886 (2): 70 (1886).

Durabaculum pomatophilum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium ionoglosum* Schltr. var. *pomatophilum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 552 (1912) & *Fig. Atlas* t. 186, f. 697 (1923-28).

Durabaculum prionochilum (F.Muell. et Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium prionochilum* F.Muell. et Kraenzl., *Oest. Bot. Zietschr.* 44: 162 (1894).

Durabaculum pseudoconanthum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium pseudoconanthum* J.J.Sm., *Bull. Jard. Bot. Buit.* (ser. 3) 8: 53-55 (1926).

Durabaculum rennellii (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium rennellii* P.J.Cribb, *Kew Bull.* 37(4): 583-84, f. 2. (1983).

Durabaculum ruidilobum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium ruidilobum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 36: 111-113 (1934).

Durabaculum samoense (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium samoense* P.J.Cribb, *Kew Bull.* 37(4): 584-5, f. 3 (1983).

Durabaculum sancristobelense (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium sancristobelense* P.J. Cribb, *Kew Bull.* 37(4): 585-86, f. 4 (1983).

Durabaculum schulleri (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium schulleri* J.J.Sm., *Bull. Jard. Bot. Buit.* (ser. 2) 13: 63 (1914).

Durabaculum soriense (Howcroft) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium soriense* Howcroft, *Orchadian* 11(12): 580-82, f, 1 & 2 (1996).

Durabaculum spathulatum (L.O.Williams) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium spathulatum* L.O.Williams, *Bot. Mus. Leafl. Harv. Univ.* 5: 124 (1938).

Durabaculum sylvanum (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium sylvanum* Rchb.f., *Linnaea* 41: 91 (1877).

Durabaculum tangerinum (P.J.Cribb) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium tangerinum* P.J.Cribb, *Orchid Rev.* 88: 144 (1980).

Durabaculum taurinum (Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium taurinum* Lindl. in Edwards, *Bot. Reg.* 27: t. 28 (1843).

Durabaculum tokai (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium tokai* Rchb.f., *Hamb. Gart. Zeir.* 21: 293 (1865).

Durabaculum undulatum (R. Br.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium undulatum* R. Br., *Prod.* 332 (1810), *non* Pers. (1807).

Durabaculum undulatum (R. Br.) M.A.Clem. et D.L.Jones var. **broomfieldii** (Fitzg.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium broomfieldii* (Fitzg.) Fitzg., *Austral. orch.* 2(3): back cover (1888); *Dendrobium undulatum* R. Br. var. *broomfieldii* Fitzg., *Austral. orch.* 2(3): [t. 5] (1888).

Durabaculum validum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium validum* Schltr. in K. Schum. et Laut., *Fl. Schutzg. Sudsee, Nachtr.* 165 (1905).

Durabaculum veratrifolium (Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium veratrifolium* Lindl. in Hook., *J. Bot.* 2: 236 (1843), *non* Roxb. (1832).

Durabaculum violaceoflavens (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium violaceoflavens* J.J.Sm., *Nova Guinea* 14: 420-21, t. 65, f. 72 (1929).

Durabaculum warianum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium warianum* Schltr., *Repert Spec. Nov. Regni Veg. Beih.* 1: 548-49 (1912) & *Fig. Atlas* 185, f. 693 (1923-28).

Durabaculum williamsianum (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium williamsianum* Rchb.f., *Gard. Chron.* 9: 52 (1878).
Notes: This species has traditionally been placed in *Dendrobium* sect. *Phalaenanthe* because of the mauve colouration of the flowers, but the results of the DNA analyses shows it instead to be embedded within this genus.

Durabaculum wulaiense (Howcroft) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium wulaiense* Howcroft, *Orchadian* 6(12): 284, f. (1981).

12. *Eleutheroglossum* (Schltr.) M.A.Clem. et D.L.Jones, *gen. et stat. nov.*

Basionym: *Dendrobium* Sw. sect. *Eleutheroglossum* Schltr., *Bot. Jahrb.* 39: 48 (1906). Type species: *Dendrobium eleutheroglossum* Schltr.

New combinations:
Eleutheroglossum closterium (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium closterium* Rchb.f., *Linnaea* 41: 92 (1877).

Eleutheroglossum fellowsii (F.Muell.) D.L.Jones et M.A.Clem., ***comb. nov.***
Basionym: *Dendrobium fellowsii* F.Muell., *Fragm.* 7: 63 (1870).

Eleutheroglossum jocosum (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium jocosum* Rchb.f., *Linnaea* 41: 91 (1877).

Eleutheroglossum ngoyense (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium ngoyense* Schltr., *Bot. Jahrb.* 39: 70 (1906).

Eleutheroglossum poissonianum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium poissonianum* Schltr., *Bot. Jahrb.* 39: 71 (1906).

13. *Eurycaulis* M.A.Clem. et D.L.Jones, ***nom. et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Platycaulon* Schltr. in K. Schum. et Laut., *Fl. Schutzg. Sudsee, Nachtr.* 150 (1905) (as "*Platybulbon*", orth. error). Type species: *Dendrobium lamellatus* (Blume) Lindl.

New combinations:
Eurycaulis camptocentrus (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium camptocentrum* Schltr., *Bot. Jahrb.* 39: 69 (1906).

Eurycaulis lamellatus (Blume) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Onychium lamellatum* Blume, *Bijdr.* 526 (1825).

14. *Leioanthum* M.A.Clem. et D.L.Jones, ***gen. nov.*** affinis *Sayeriae* Kraenzl. sed pseudobulbis fusiformibus; vaginis exilibus appressis; floribus glabris terminale aggregatis, pedunculo elongato glabro; labello prominente bilobo; patella calli quadra alba, differt. Type species: *Dendrobium bifalce* Lindl.

New combination:
Leioanthum bifalce (Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium bifalce* Lindl., *London J. Bot.* 2: 237 (1843).

15. *Oxyglossellum* M.A.Clem. et D.L.Jones, ***nom. et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Oxyglossum* Schltr. in K. Schum. et Laut., *Fl. Schutzg. Sudsee, Nachtr.* 149 (1905). Type species: *Dendrobium cyanocentrum* Schltr.

New combinations:
Oxyglossellum cyanocentrum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cyanocentrum* Schltr. in K. Schum. et Laut., *Fl. Schutzg. Sudsee, Nachtr.* 160 (1905).

Oxyglossellum theionanthum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium theionanthum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 528 (1912).

16. *Sarcocadetia* (Schltr.) M.A.Clem. et D.L.Jones, ***gen. et stat. nov.***
Basionym: *Cadetia* Gaud. sect. *Sarco-Cadetia* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 426 (1912). Type species: *Cadetia funiformis* (Blume) Schltr.

New combinations:
Sarcocadetia funiformis (Blume) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium funiforme* Blume, *Rumphia*, 4: 40, t. 193, f. 5, t. 198 D (1848).

Sarcocadetia wariana (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Cadetia wariana* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 426-427 (1912).

17. *Sayeria* Kraenzl., *Ost. Bot. Zeitsch.* 44: 257-259 (1894). Type species: *Sayeria paradoxa* Kraenzl.

New combination:
Sayeria psyche (Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium psyche* Kraenzl. in Engl., *Pflanzenreich Orch.-Mon.-Dendr.* 1: 216-217 (1910).

18. *Stelbophyllum* D.L. Jones et M.A.Clem., ***gen. nov.***; affinis *Dockrilliae* Brieger, sed habitu implexiprostrato; foliis triangulis, canaliculatis, cellulis siliceis in eminentiis verrucatiform; floribus singularibus, e nascenti centro folii; et labello succulento medilobo obovato, differt. Type species: *Bulbophyllum toressae* F.M.Bailey.

New combination:
Stelbophyllum toressae (F.M. Bailey) D.L.Jones et M.A.Clem., ***comb. nov.***
Basionym: *Bulbophyllum toressae* F.M.Bailey, *Syn. Queensl. fl. Suppl.* 3: 72 (1890).

19. *Tetrabaculum* M.A.Clem. et D.L.Jones, ***gen. nov.***; affinis *Thelychitoni* Endl., sed pseudobulbis tetragonibus versus basim exilissimis; inflorescentibus persistentibus, auctis; floribus stellatis sepalis et petalis attenuatis, differt. Type species: *Dendrobium tetragonum* A.Cunn. (see below).

New combinations:
Tetrabaculum cacatua (M.A.Clem. et D.L.Jones) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cacatua* M.A.Clem. et D.L.Jones, *Austral. Orch. Res.* 1: 48 (1989).

Tetrabaculum capitisyork (M.A.Clem. et D.L.Jones) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium capitisyork* M.A.Clem. et D.L.Jones, *Austral. Orch. Res.* 1: 49 (1989).

Tetrabaculum melaleucaphilum (M.A.Clem. et D.L.Jones) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium melaleucaphilum* M.A.Clem. et D.L.Jones, *Austral. Orch. Res.* 1: 57 (1989).

Tetrabaculum tetragonum (A.Cunn.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium tetragonum* A.Cunn. in Edwards, *Bot. Reg.* 25: *Misc.* 33 (1839).

20. *Thelychiton* Endl., *Prod. Fl. Norf.* 32 (1833). Type species: *Thelychiton macropus* Endl., *fide* Clements (1989), but based on Bentham and Hooker (1880: 500) who first recognised the affinities of this species and *T. brachypus* with *Dendrobium kingianum*.

Dendrocoryne Brieger in Schltr., *Die Orchideen* 3(1): 724 (1981). Type species: *Dendrobium speciosum* Sm.

Notes: When elevating *Dendrobium* sect. *Dendrocoryne* to generic rank, Brieger (1981) cited *Dendrobium speciosum* Sm. as the type. In so doing he explicitely excluded *Dendrobium compressum* Lindl. which was the original type for *Dendrobium* section *Dendrocoryne* Lindl. (Lindley 1842). By this action Brieger effectively created a new genus based on *D. speciosum* (Art 48.1 of ICBN) and as such he is the sole author of the genus.

New combinations:

Thelychiton adae (F.M.Bailey) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium adae* F.M.Bailey, *Proc. Roy. Soc. Queensland* 1: 149 (1884).

Thelychiton capricornicus (Clemesha) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium speciosum* Sw. *var. capricornicum* Clemesha, *Orchadian* 7(5): 103, figs 2-4, 6 (1982).

Thelychiton carnarvonensis (P.B.Adams) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium kingianum* Bidw. ex Lindl. subsp. *carnarvonense* P.B.Adams in P.B.Adams et S.D.Lawson, *Dendrobium kingianum: Unique Austral. Orchid* 16 (1995).

Thelychiton comptonii (Rendle) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium comptonii* Rendle, *J. Proc. Linn. Soc., Bot.* 45: 247 (1920).

Thelychiton curvicaulis (F.M.Bailey) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium speciosum* Sm. var. *curvicaule* F.M.Bailey, *Bot. Bull. Dept. Agric. Queensland* 14: 12 (1896).

Thelychiton X delicatus (F.M.Bailey) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium speciosum* Sm.. var. *delicatum* F.M.Bailey, *Proc. Roy. Soc. Queensland* 1: 11 (1884).

Thelychiton falcorostrus (Fitzg.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium falcorostrum Fitzg.* in *Sydney Morning Herald* 7 (18/11/1876).

Thelychiton finniganensis (D.L. Jones) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium finniganensis* D.L.Jones, *Phytologia* 73(1): 3-6, f.1 (1992).

Thelychiton fleckeri (Rupp et C.T.White) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium fleckeri* Rupp et C.T.White, *Queensland Naturalist* 10: 25, t. 1 (1937).

Thelychiton gracilicaulis (F.Muell.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium gracilicaule* F.Muell., *Fragm.* 1: 179 (1859).

Thelychiton X gracillimus (Rupp) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium speciosum* Sm. var. *gracillimum* Rupp, *Proc. Linn. Soc. New South Wales* 54: 550 (1929).

Thelychiton jonesii (Rendle) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium jonesii* Rendle, *J. Bot.* 39: 197 (1901).

Thelychiton jonesii (Rendle) M.A.Clem. et D.L.Jones subsp. ***bancroftianus*** (Rchb.f.) M. A.Clem. et D.L. Jones, ***comb.et stat. nov.***
Basionym: *Dendrobium speciosum* Sm. var. *bancroftianium* Rchb.f., *Gard. Chron.* (new ser.) 15: 782 (1881).

Thelychiton jonesii (Rendle) M.A.Clem. et D.L.Jones subsp. ***blackburnii*** (Nicholls) M. A.Clem. et D.L. Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium fusiforme* (F.M.Bailey) F.M.Bailey var. *blackburnii* Nicholls, *Victorian Naturalist* 66: 255 (1950).

Thelychiton X kestevenii (Rupp) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium X kestevenii* Rupp, *Proc. Linn. Soc. New South Wales* 56: 137 (1931).

Thelychiton kingianus (Bidw. ex Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium kingianum* Bidw. ex Lindl. in Edwards, *Bot. Reg.* 30: *Misc.* 11-12 (1844).

Thelychiton moorei (F.Muell.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium moorei* F.Muell., *Fragm.* 7: 29 (1869).

Thelychiton X nitidus (F.M.Bailey) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium speciosum* Sm. var. *nitidum* F.M.Bailey, *Proc. Roy. Soc. Queensland* 1: 10 (1884).

Thelychiton pedunculatus (Clemesha) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium speciosum* Sm. var. *pedunculatum* Clemesha, *Orchadian* 6(11): 261 (1981).

Thelychiton pulcherrimus (Rupp) M.A.Clem. et D.L.Jones, ***comb. et stat. nov.***
Basionym: *Dendrobium kingianum* Bidw. ex Lindl. var. *pulcherrimum* Rupp, *Orchids New South Wales* 116 (1943).

Thelychiton rex (M.A.Clem. et D.L.Jones) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium rex* M.A.Clem. et D.L.Jones, *Austral. Orch. Res.* 1: 58 (1989).

Thelychiton X ruppiosus (Clemesha) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium x ruppiosum Clemesha, Orchadian* 7(4): 91-2 (1982).

Thelychiton speciosus (Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium speciosum* Sm., *Exotic Bot.* 1: 17, t. 10 (1804).

Thelychiton X suffusus (Cady) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium x suffusum Cady, Orchadian* 1: 80 (1964).

Thelychiton tarberi (M.A.Clem. et D.L.Jones) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium tarberi* M.A.Clem. et D.L.Jones, *Austral. Orch. Res.* 1: 62 (1989).

21. *Tropilis* Rafin., *Fl. Tell.* 2: 95 (1837). Type species: *Dendrobium aemulum* R.Br. (= *Tropilis aemula* (R.Br.) Rafin. (as "*emula*")

New Combination:
Tropilis callitrophilis (B.Gray et D.L.Jones) D.L.Jones et M.A.Clem, ***comb. nov.***
Basionym: *Dendrobium callitrophilum* B.Gray et D.L.Jones, *Proc. Royal Soc. Queensland* 100: 105-107, f. (1989).

22. *Vappodes* M.A.Clem. et D.L.Jones, ***nom. et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Phalaenanthe* Schltr., *Repert. Sepc. Nov. Regni Veg. Beih* 1: 447 (1912). Type species: *Dendrobium bigibbum* Lindl.

New combinations:
Vappodes affinis (Decne.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Onychium affine* Decne., *Nouv. Ann. Mus. Hist. Nat.* 3: 365 (1836).

Vappodes bigibba (Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium bigibbum* Lindl. in Paxton's, *Fl. Gard.* 3: 25, f. 245 (1852).

Vappodes dicupha (F.Muell.). M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium bigibbum* F.Muell., *Fragm.* 6: 119 (1868), *non* Lindl. (1853); *Dendrobium dicuphum* F.Muell., *Fragm.* 8: 28 (1873).

Vappodes fleischeri (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium fleischeri* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 111 (1913).

Vappodes leeana (J.O'Brien) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium leeanum* J.O'Brien, *Gard. Chron.* (ser. 3) 10: 640, f. 88 (1891).

Vappodes lithocola (D.L. Jones et M.A.Clem.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium lithocola* D.L. Jones et M.A.Clem., *Austral. Orch. Res.* 1: 56 (1989).

Vappodes phalaenopsis (Fitzg.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium phalaenopsis* Fitzg., *Gard. Chron.* (ser. 2) 14: 38 (1880).

Vappodes striaenopsis (M.A.Clem. et D.L.Jones) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium striaenopsis* M.A.Clem. et D.L.Jones, *Austral. Orch. Res.* 1: 148 (1989).

23. *X Vappaculum* M.A.Clem. et D.L.Jones, ***hybrid gen., nom et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Superbientia* Kraenzl., Pflanzenr., Orch.-Mon.-Dend. VI: 257 (1910). Type species: *Dendrobium X superbiens* Rchb.f., here desginated. Notes: This hybrid genus accommodates natural hybrids between species of *Vappodes* and *Durabaculum.*

New combinations:
X Vappaculum lavarackianum (M.A.Clem.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium X lavarackianum* M.A.Clem., *Austral. Orch. Res.* 1: 55 (1989).

X Vappaculum superbiens (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium superbiens* Rchb.f., *Gard. Chron.* (new ser.) 6: 516 (1876).

X Vappaculum vinicolor (St.Cloud) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium vinicolor* St.Cloud, *North Queensland Naturalist* 25 (116): 4-5, f. (1956).

Appendix 1: Allied genera from New Guinea

Subtribe: Dendrobiinae Lindl., *Gen. Sp. Orch. Pl.* 45 (1830) (as Section II. Dendrobieae). Type species: *Dendrobium* Sw., *fide* Butzin (1971: 323).

1. ***Chromatotriccum*** M.A.Clem. et D.L.Jones, ***nom. stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Calyptrochilus* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 445 (1912). Type species: *Dendrobium lawesii* F. Muell. *vide* P.Royen (1979: 336).
non Calyptrochilum Kraenzl., *Bot. Jahrb. Syst.* 22: 30. (19 Nov 1895). Type: *Calyptrochilum preussii* Kraenzl.

Etymology: From the Greek "*chromatos*" – colour of skin, and "*trikkos*" – a small bird, an allusion to the colourful flowers, which in many species are pollinated by small birds.

New combinations:
Chromatotriccum aemulans (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium aemulans* Schltr. in K. Schum. et Laut., *Fl. Schutzg. Sudsee, Nachtr.* 176 (1905).

Chromatotriccum amblyogenium (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium amblyogenium* Schltr., *Repert. Spec. Nov. Regni Veg.* 10: 82 (1911).

Chromatotriccum angiense (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium angiense* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 116 (1913).

Chromatotriccum apertum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium apertum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 518 (1912).

Chromatotriccum aphanochilum (Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium aphanochilum* Kraenzl. in Engl., *Pflanzenreich Orch.-Mon.-Dendr.* 45: 110 (1910).

Chromatotriccum argiense (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium argiense* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 116 (1913).

Chromatotriccum aristiferum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium aristiferum* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 2), 2: 12 (1911).

Chromatotriccum asumburu (P.Royen) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium asumburu* P.Royen, *Alp. Fl. New Guinea* 2: 358-360, f. 124 (1979).

Chromatotriccum aurantiflavum (P.Royen) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium aurantiflavum* P.Royen, *Alp. Fl. New Guinea* 2: 355-357, f. 123 (1979).

Chromatotriccum baeuerlenii (F.Muell. et Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium baeuerleni* F.Muell. et Kraenzl., *Oest. Bot. Zeitschr.* 44: 163 (1894).

Chromatotriccum brachycalyptra (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium brachycalyptra* Schltr., *Bot. Jahrb. Syst.* 58: 102 (1923).

Chromatotriccum brachycentrum (Ridl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium brachycentrum* Ridl., *Trans. Linn. Soc., Bot.* 9: 169 (1916).

Chromatotriccum brevilabium (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium brevilabium* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 520 (1912).

Chromatotriccum calyptratum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium calyptratum* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 2), 2: 12-13 (1911).

Chromatotriccum chrysopterum (Schuit. et deVogel) D.L.Jones et M.A.Clem., ***comb. nov.***
Basionym: *Dendrobium chrysopterum* Schuit. et deVogel, *J. Orchideenfreund* 8(4): 303-312 (2001).

Chromatotriccum cochleatum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cochleatum* J.J.Sm., *Bull. Dep. Agric. Indes Neerl.* 19: 15 (1908).

Chromatotriccum codonosepalum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium codonosepalum* J.J.Sm., *Nova Guinea* 18: 51-52, t. 10, f. 31 (1935).

Chromatotriccum coelandria (Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium coelandria* Kraenzl. in Engl., *Pflanzenreich Orch.-Mon.-Dendr.* 45: 132 (1910).

Chromatotriccum conicum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium conicum* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 2), 3: 21 (1912).

Chromatotriccum convexipes (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium convexipes* J.J.Sm., *Nova Guinea* 14: 438, t. 69, f. 85 (1929).

Chromatotriccum crepidiferum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium crepidiferum* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 3), 5: 89-90 (1922).

Chromatotriccum cuculliferum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cuculliferum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 118 (1913).

Chromatotriccum cylindricum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cylindricum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 117 (1913).

Chromatotriccum deflexum (Ridl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium deflexum* Ridl., *Trans, Linn. Soc., Bot.* 9: 169 (1916).

Chromatotriccum delphinioides (R.S.Rogers) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium delphinioides* R.S.Rogers, *Trans. Proc. Roy. Soc. South Australia* 49: 262 (1925).

Chromatotriccum dichroma (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium dichroma* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 515-516 (1912).

Chromatotriccum erosum (Schltr.) D.L.Jones et M.A.Clem, ***comb. nov.***
Basionym: *Pedilonum erosum* Blume, Bijdr. 320. t. 323 (1825).

Chromatotriccum eumelinum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium eumelinum* Schltr., *Bot. Jahrb. Syst.* 58: 102-103 (1923).

Chromatotriccum flammula (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium flammula* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 516-517 (1912).

Chromatotriccum fruticicola (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium fruticicola* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 116-117 (1913).

Chromatotriccum fulgidum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium fulgidum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 505-506 (1912).

Chromatotriccum glaucoviride (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium glaucoviride* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 119 (1913).

Chromatotriccum infractum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium infractum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 118 (1918).

Chromatotriccum X intermedium (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium X intermedium* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 523 (1912); *Dendrobium X vonpaulsenianum* A.D.Hawkes, *Lloydia* 20: 125 (1957), *nom.*

Chromatotriccum jabiense (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium jabiense* J.J.Sm., *Meded. Herb. Leid.* No. 23, 11 (1915).

Chromatotriccum juncoideum (P.Royen) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium juncoideum* P.Royen, *Alpine Fl. New Guinea* 2: 430-433, f. 149 (1979).

Chromatotriccum keytsianum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium keytsianum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 115-116 (1913).

Chromatotriccum lamii (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium lamii* J.J.Sm., *Nova Guinea* 14: 435-436, t. 69, f. 83 (1929).

Chromatotriccum lanepoolei (R.S.Rogers) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium lane-poolei* R.S.Rogers, *Trans. Proc. Roy. Soc. S. Austral.* 49: 263 (1925).

Chromatotriccum lawesii (F.Muell.) M.A.Clem. et D.L.Jones, **comb. nov.**
Basionym: *Dendrobium lawesii* F.Muell., *Melb. Chemist* 14 (June 1884).

Chromatotriccum loesenerianum (Schltr.) D.L.Jones et M.A.Clem., ***comb. nov.***
Basionym: *Dendrobium loesenerianum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 522 (1912).

Chromatotriccum maritimum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium maritimum* J.J.Sm., *Nova Guinea* 14(3): 433-434, t. LXVIII 81 (1929).

Chromatotriccum macrogenion (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium macrogenion* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 513-514 (1912).

Chromatotriccum melinanthum (Schltr.) M.A.Clem., ***comb. nov.***
Basionym: *Dendrobium melinanthum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 517 (1912).

Chromatotriccum mitriferum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium mitriferum* J.J.Sm., *Bull. Dép. Agric. Indes Néerl.* 39: 10 (1910).

Chromatotriccum mohlianum (Rchb.f.) D.L.Jones et M.A.Clem., ***comb. nov.***
Basionym: *Dendrobium mohlianum* Rchb.f., *Bot. Zeit.* 20: 214 (1862).

Chromatotriccum mystroglossum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium mystroglossum* Schltr., *Bot. Jahrb. Syst.* 58: 103 (1923).

Chromatotriccum navicula (Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium navicula* Kraenzl. in Engl., *Pflanzenreich Orch.-Mon.-Dendr.* 45: 129 (1910).

Chromatotriccum nubigenum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium nubigenum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 517 (1912).

Chromatotriccum obtusipetalum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium obtusipetalum* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 2), 2: 13 (1911).

Chromatotriccum oreodoxa (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium oreodoxa* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 519 (1912).

Chromatotriccum pachyceras (F. Muell. et Kraenzl. ex Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium pachyceras* F. Muell. et Kraenzl. ex Kraenzl., *Oest. Bot. Zeitschr.* 44: 164 (1894).

Chromatotriccum pandanicola (J.J.Wood) M.A.Clem. et D.L.Jones, ***comb.et stat. nov.***
Basionym: *Dendrobium subclausum* Rolfe var. *pandanicola* J.J. Wood, *Kew Bull.* 41(4): 817 (1986).

Chromatotriccum papuanum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium papuanum* J.J.Sm. in L. S. Gibbs, *Phytogeogr. et Fl. Arfak Mts.* 120-121 (1917).

Chromatotriccum parvifolium (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium parvifolium* J.J.Sm. in L. S. Gibbs, *Phytogeogr. et Fl. Arfak Mts.* 121-122 (1917).

Chromatotriccum paspalifolium (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium paspalifolium* J.J.Sm., *Nova Guinea* 18: 52-53, t. 11, f. 32 (1935).

Chromatotriccum phlox (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium phlox* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 515 (1912).

Chromatotriccum pseudopeloricum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium pseudopeloricum* J.J.Sm., *Nova Guinea* 14: 437, t. 69, f. 84 (1929).

Chromatotriccum purpureiflorum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium purpureiflorum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 118-119 (1913).

Chromatotriccum quadriquetrum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium quadriquetrum* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 119-120 (1913).

Chromatotriccum rhabdoglossum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium rhabdoglossum* Schltr., *Bot. Jahrb. Syst.* 58: 104 (1923).

Chromatotriccum riparium (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium riparium* J.J.Sm., *Repert. Spec. Nov. Regni Veg.* 12: 117 (1918).

Chromatotriccum roseoflavidum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium roseoflavidum* Schltr., *Bot. Jahrb. Syst.* 58: 104-105 (1923), *non* Schltr. (1912).

Chromatotriccum roseum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium roseum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 514-515 (1912), *non* Sw. (1805).

Chromatotriccum rutriferum (Rchb.f.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium rutriferum* Rchb.f., *Gard. Chron.* (ser. 3) 2: 746 (1887); *Lindenia* 3: 49, t. 119 (1887).

Chromatotriccum sacculiferum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium sacculiferum* J.J.Sm., *Nova Guinea* 14: 434-435, t. 68, f. 82 (1929), *non* Schltr. (1922).

Chromatotriccum salmoneum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium salmoneum* Schltr. in K.Schum. et Lauterb., *Nachtr. Fl. Deutsch. Südsee* 178 (1905).

Chromatotriccum scabrifolium (Ridl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium scabrifolium* Ridl., *Trans. Linn. Soc., Bot.* 9: 171(1916).

Chromatotriccum speciosum (J.J.Wood) M.A.Clem. et D.L.Jones, ***comb.et stat. nov.***
Basionym: *Dendrobium subclausum* Rolfe var. *speciosum* J.J. Wood, *Kew Bull.* 41(4): 818 (1986).

Chromatotriccum sphenochilum (F.Muell. et Kraenzl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium sphenochilum* F.Muell. et Kraenzl., *Oest. Bot. Zeitschr.* 44(7): 254-255 (1894).

Chromatotriccum stolleanum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium stolleanum* Schltr., *Bot. Jahrb. Syst.* 58: 105 (1923).

Chromatotriccum strictum (Ridl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium strictum* Ridl., *Trans. Linn. Soc., Bot.* 9: 168-169 (1916).

Chromatotriccum subclausum (Rolfe) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium subclausum* Rolfe, *Kew Bull.* 361 (1894).

Chromatotriccum sulawesiense (J.Erfkamp et O.Gruss) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium sulawesiense* J.Erfkamp et O.Gruss, *Die Orchidee* 51(1): 57-60, f. , t. (2000).

Chromatotriccum trachythece (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium trachythece* Schltr., *Bot. Jahrb. Syst.* 58: 105-106 (1923).

Chromatotriccum trichostomum (Rchb.f. ex Oliver) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium trichostomum* Rchb.f. ex Oliver, *J. Linn. Soc.* 15: 30 (1875).

Chromatotriccum tubiflorum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium tubiflorum* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 2), 13: 66 (1914).

Chromatotriccum uliginosum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium uliginosum* J.J.Sm., *Bull. Dep. Agric. Indes Néerl.* 39: 11 (1910).

Chromatotriccum vacciniifolium (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium vacciniifolium* J.J.Sm., *Nova Guinea* 18: 53-54, t. 11, f. 33 (1935).

Chromatotriccum vannouhuysii (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium vannouhuysii* J.J.Sm., *Bull. Dép. Agric. Indes Néerl.* 45: 6 (1911).

Chromatotriccum verruculosum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium verruculosum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 519 (1912).

Chromatotriccum wentianum (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium wentianum* J.J.Sm., *Bull. Dép. Agric. Indes Néerl.* 45: 6 (1911).

Chromatotriccum wolterianum (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium wolterianum* Schltr., *Orchis* 6: 65-66, t. 12 f. 17-24 (1912).

Chromatotriccum woluense (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium woluense* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 3), 10: 153-154 (1928).

Chromatotriccum womersleyi (T.M.Reeve) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium womersleyi* T. M. Reeve, *Orchadian* 7: 135-137, f. 6 (1982).

Chromatotriccum xanthogenium (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium xanthogenium* Schltr., *Bot. Jahrb. Syst.* 58: 106 (1923).

2. *Exochanthus* M.A.Clem. et D.L.Jones, ***nom. et stat. nov.***
Basionym: *Dendrobium* Sw. subgen. *Xerobium* Schltr. sect. *Pleianthe* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 450, 625 (1912). Type species: *Dendrobium pleianthum* Schltr. (see below).
Grastidium Blume sect. *Pleianthus* (Schltr.) Brieger in Schltr., *Die Orchideen* (3, Aufl.) 1: 653 (1981), *comb. illeg.*

Etymology: From the Greek "*exochos*" projecting and "*anthos*" a flower.

New combinations:
Exochanthus dolichicaulon (Schltr.) M.A. Clem. et D.L. Jones, ***comb. nov.***
Basionym: *Dendrobium dolichocaulon* Schltr., *Bot. Jahrb. Syst.* 58: 117 (1923).

Exochanthus phragmitoides (Schltr.) M.A. Clem. et D.L. Jones, ***comb. nov.***
Basionym: *Dendrobium phragmitoides* Schltr., *Repert. Spec. Nov. Regni Veg.* 21: 158 (1925).

Exochanthus pleianthum M.A. Clem. et D.L. Jones, ***comb. nov.***
Basionym: *Dendrobium pleianthum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 625-26 (1912) & Fig. Atlas t. 210, f. 793 (1928).

3. *Maccraithea* M.A.Clem. et D.L.Jones, ***nom et stat. nov.***
Basionym: *Dendrobium* Sw. sect. *Cuthbertsonia* Schltr, *Repert. Spec. Nov. Regni Veg. Beih.* 1: 445-446, 523-524 (1912). Type: *Dendrobium cuthbertsonii* F.Muell.

Pedilonum Blume sect. *Cuthbertsonia* (Schltr.) Brieger in Schltr., *Die Orchideen* (ed. 30) 1, 682-684 (1981).

Etymology: Named in honour of Gerald McCraith, co-founder of the Australian Orchid Foundation and philanthropist who has provided considerable support of orchid research over the past 30 years and who has a special fondness for this group of orchids.

New combinations:
Maccraithea agathodaemonia (J.J.Sm.) D.L.Jones et M.A.Clem., **comb. nov.**
Basionym: *Dendrobium agathodaemonis* J.J.Sm., *Bull. Dép. Agric. Inde. Néerl.* 39: 7 (1910).

Maccraithea asperifolia (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium asperifolium* J.J.Sm., *Bull. Jard. Bot. Buitenz.* (ser. 2), 2: 13 (1911).

Maccraithea atromarginata (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium atromarginatum* J.J.Sm., *Nova Guinea* 14: 422, t. 66, f. 73 (1929).

Maccraithea coccinella (Ridl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium coccinellum* Ridl., *Trans. Linn. Soc., Bot.* 9: 174-175 (1916).

Maccraithea cuthbertsonii (F.Muell.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium cuthbertsonii* F. Muell., *Trans. Proc. Roy. Soc. Victoria* 24: 175 (July 1888).

Maccraithea euphues (Ridl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium euphues* Ridl., *Trans. Linn. Soc., Bot.* 9: 174 (1916).

Maccraithea laevifolia (Stapf) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium laevifolium* Stapf in Curtis, *Bot. Mag.* t. 9011 (1924).

Maccraithea lichenicola (J.J.Sm.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium lichenicola* J.J.Sm., *Nova Guinea* 14: 423, f. 74 (1929).

Maccraithea prasina (Lindl.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium prasinum* Lindl., *J. Linn. Soc.* 3: 11 (1858).

Maccraithea sophronites (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium sophronites* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 524 (1912).

Maccraithea trachyphylla (Schltr.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Dendrobium trachyphyllum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 525 (1912).

Acknowledgements

We are grateful to Laurie Adams for the Latin diagnoses and discussions on nomenclature. We also wish to thank Marion Garratt, Karina FitzGerald and Ish Sharma for technical assistance. We thank numerous colleagues who have contributed to this study, in particular David Banks, Marcel Boulet, Jim Cootes, Ralph Crane†, Bruce Gray, Wayne Harris, Mike Harrison, T.Jaffre, John Riley, Lewis Roberts, Darryl Smedley, Phil Spence, Ron Tunstall and Ben Wallace.

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- Szlachetko, D.L. and Margonska, H.B. (2001). Genera et Species Orchidalium 2. *Polish Bot. J.* 46(1): 27-29.

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Nomenclatural Changes in the Australian and New Zealand Bulbophyllinae and Eriinae (Orchidaceae)

a201762

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Abstract

New combinations are made in segregate genera recognised within the Australian Bulbophyllinae and Eriinae resulting from detailed morphological and molecular studies that will be published elsewhere. In Bulbophyllinae, *Adelopetalum* Fitzg., *Ephippium* Blume and *Oxysepala* Wight are reinstated at generic rank; three sections of *Bulbophyllum* are raised to generic status, *Carparomorchis* M.A.Clem. et D.L.Jones (for sect. *Stenochilus* J.J.Sm.), *Fruticicola* (Schltr.) M.A.Clem. et D.L.Jones, *Papulipetalum* (Schltr.) M.A.Clem. et D.L.Jones; and the genera *Blepharochilum* M.A.Clem. et D.L.Jones, *Ichthyostomum* D.L.Jones, M.A.Clem. et Molloy, *Karorchis* D.L.Jones et M.A.Clem. and *Serpenticaulis* M.A.Clem. et D.L.Jones are described as new. In the Eriinae, *Bryobium* Lindl. is reinstated at generic rank and one section of *Eria* is raised to generic status, *Hymeneria* (Lindl.) M.A.Clem. et D.L.Jones.

Introduction

Detailed morphological and molecular studies have shown that new generic limits are required in the Australasian Bulbophyllinae and Eriinae. Detailed papers on these two groups are in preparation but in the light of recent taxonomic activities of Polish workers (Szlachetko 2001, Szlachetko and Margonska 2001), it has been decided to make the necessary nomenclatural transfers prior to the submission of these more detailed papers.

TAXONOMY

Subtribe: Bulbophyllinae Schltr., *Orch.* 319 (1914). Type: *Bulbophyllum* Thouars

1. ***Adelopetalum*** Fitzg., *J. Bot.* 29: 152 (1891).
Type species: *Adelopetalum bracteatum* Fitzg.

New Combinations:
Adelopetalum argyropum (Endl.) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Thelychiton argyropus* Endl., *Prodr. fl. Norf.* 32 (1833).

Adelopetalum boonjee (B.Gray et D.L.Jones) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum boonjee* B.Gray et D. Jones, *Orchadian* 8(2): 40-42 (1984).

Adelopetalum elisae (F.Muell.) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Cirrhopetalum elisae* F. Muell., *Fragm.* 6: 120 (1868).

Adelopetalum exiguum (F.Muell.) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum exiguum* F. Muell., *Fragm.* 2: 72 (1860).

Adelopetalum lageniforme (F.M.Bailey) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum lageniforme* F.M.Bailey, *Queensland Agric. J.* 15: 494 (1904).

Adelopetalum lilianiae (Rendle) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum lilianiae* Rendle, *J. Bot.* 55: 308 (1917).

Adelopetalum newportii (F.M.Bailey) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Sarcochilus newportii* F.M.Bailey, *Queensland fl.* 6: 2014 (1902).

Adelopetalum tuberculatum (Colenso) D.L.Jones, M.A.Clem. et Molloy, *comb. nov.*
Basionym: *Bulbophyllum tuberculatum* Colenso, *Trans. & Proc. New Zealand Inst.* 16: 336 (1884).

Adelopetalum weinthalii (R.S.Rogers) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum weinthalii* R.S.Rogers, *Trans. & Proc. Roy. Soc. South Australia* 57: 95-6 (1933).

Adelopetalum weinthalii (R.S.Rogers) D.L.Jones et M.A.Clem. subsp. ***striatum*** (D.L.Jones) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum weinthalii* (R.S.Rogers) D.L.Jones et M.A.Clem. subsp. *striatum* D.L.Jones, *Orchadian* 13(7); 313 (2001).

Adelopetalum wilkianum (T.E.Hunt) M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum wilkianum* T.E.Hunt, *North Queensland Naturalist* 14(82): 17 (1947).

2. *Blepharochilum* M.A.Clem. et D.L.Jones, *gen. nov.* affinis *Canacorchidi* Guillaum., sed plantis crescens in caespitulos; foliis canaliculatis, succulentis; inflorescentibus solitarifloris; pedicello et flore post-anthesi abscindenti sed pedunculo remanenti, differt. Type species: *Bulbophyllum purpurascens* F.M.Bailey, *nom. illeg.*, *non* Teijsm. et Binnend.(1862).

New combinations:
Blepharochilum macphersonii M.A.Clem. et D.L.Jones, *nom. nov.*
Basionym: *Bulbophyllum purpurascens* F.M.Bailey, *Proc. Roy. Soc. Queensland* 1: 88 (1885), *nom. illeg.*, *non* Teijsm. et Binnend (1862).

Blepharochilum sladeanum M.A.Clem. et D.L.Jones, *nom. nov.*
Basionym: *Bulbophyllum cochleatum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 8: 455 (1910), *non* Lindl. (1862).

3. *Carparomorchis* M.A.Clem. et D.L.Jones, *nom. et stat. nov*
Basionyum: *Bulbophyllum* Thouars sect. *Stenochilus* J.J.Sm., *Bull. J. Bot. Buitenz.* (ser. 2)13: 33 (1914). Type: *Bulbophyllum macranthum* Lindl., here designated (see below).

New combinations:
Carparomorchis baileyi (F.Muell.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum baileyi* F.Muell., *Fragm.* 9: 5 (1875);

Carparomorchis macrantha (Lindl.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum macranthum* Lindl. in Edwards, *Bot. Reg.* 30: t.13 (1944).

4. *Ephippium* Blume, *Bijdr.* 308 (1825). Type species: *Ephippium ciliatum* Blume

New combination:
Ephippium masdevalliaceum (Kraenzl.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum masdevalliaceum* Kraenzl., *Bot. Jahrb. Syst.* 34: 251 (1904).

5. *Fruticicola* (Schltr.) M.A.Clem. et D.L.Jones, *gen. et stat. nov.* Basionym: *Bulbophyllum* Thouars sect. *Fruticicola* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 702-703 (1913). Type species: *Bulbophyllum fruticicola* Schltr. (see below)

New combinations:
Fruticicola albopunctata (Schltr.) M.A. Clem. et D.L.Jones, *comb. et nom. nov.*
Basionym: *Bulbophyllum fruticicola* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 748 (1913).

Fruticicola radicans (F.M.Bailey) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum radicans* F.M.Bailey, *Queensland Agric. J.* 1: 81 (1897).

6. *Ichthyostomum* D.L.Jones, M.A.Clem. et Molloy, *gen. nov.* affinis *Bulbophyllo* Thouars, sed habitu implexiprostrato; radicibus simplicibus; folio solitario; et capsula scissura solitario laterali hiscenti, differt. Type species: *Bulbophyllum pygmaeum* (Sm.) Lindl.

New combination:
Ichthyostomum pygmaeum (Sm.) D.L.Jones, M.A.Clem. et Molloy, *comb. nov.*
Basionym: *Dendrobium pygmaeum* Sm. in Rees, *Cyclop.* 11: sub. *Dendrobium* n.27 (1808).

7. *Karorchis* D.L.Jones et M.A.Clem., *gen. nov.* affinis *Bulbophyllo* Thouars, sed rhizomatibus valde reptantibus fragilibus; pseudobulbis minutis dissitis; folio tumido; inflorescentia racemosa capitulata condensata; et labello carnoso, profunde canaliculato, dense papillato, differt.Type species: *Bulbophyllum evasum* T.E.Hunt et Rupp.

New combination:
Karorchis evasa (T.E.Hunt et Rupp) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum evasum* T.E.Hunt et Rupp, *Proc. Roy. Soc. Queensland* 60: 58, t. 111, f. 1 (1949).

8. *Oxysepala* Wight, *Icon.* 5(1): 17 (1851). Type species: *Oxysepala ovalifolia* Wight

New combinations:

Oxysepala gadgarrensis (Rupp) D.L.Jones et M.A.Clem., *comb. nov*
Basionym: *Bulbophyllum gadgarrense* Rupp, *Proc. Roy. Soc. Queensland* 60: 59, t. 111, f. 2 (1949).

Oxysepala grandimesensis (B.Gray et D.L. Jones) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum grandimesense* B. Gray et D.L. Jones, *Austrobaileya* 3(1): 141-142, f.1 (1989).

Oxysepala intermedia (F.M.Bailey) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum intermedium* F.M.Bailey, *Bot. Bull. Dept. Agric. Queensland* 14: 12 (1896).

Oxysepala lamingtonensis (D.L.Jones) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum lamingtonense* D.L.Jones, *Phytologia* 74(4): 289-292 (April 1993).

Oxysepala lewisense (B.Gray et D.L.Jones) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum lewisense* B.Gray et D.L.Jones, *Austrobaileya* 3(1): 143, f.2 (1989).

Oxysepala schilleriana (Rchb.f.) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum schillerianum* Rchb.f. in Otto, *Hamb. Garten* 16: 423 (1860).

Oxysepala shepherdii (F.Muell.) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Dendrobium shepherdii* F. Muell., *Fragm.* 1: 190 (1859).

Oxysepala wadsworthii (Dockr.) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum wadsworthii* Dockr., *Orchadian* 1: 94, f. (1964

Oxysepala windsorensis (B.Gray et D.L.Jones) D.L.Jones et M.A.Clem., *comb. nov.*
Basionym: *Bulbophyllum windsorense* B.Gray et D.L.Jones, *Austrobaileya* 3(1): 143-144, f.3 (1989).

9. *Papulipetalum* (Schltr.) M.A.Clem. et D.L.Jones, *gen. et stat. nov.* Basionym: *Bulbophyllum* Thouars sect. *Papulipetalum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 7, 760 (1913). Type species: *Bulbophyllum papulipetalum* Schltr. (see below).

New combinations:

Papulipetalum angustifolium M.A.Clem. et D.L.Jones, *nom. nov.*
Basionym: *Bulbophyllum papulipetalum* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 704 (1913).

Papulipetalum nematopodum (F.Muell.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum nematopodum* F.Muell., *Fragm.* 8: 30 (1873).

10. *Serpenticaulis* M.A.Clem. et D.L.Jones, *gen. nov.* affinis *Bulbophyllo* Thouars, sed rhizomatibus longirepentibus secus longitudines e nodis radicantibus; folio singulari; et floribus singularibus, differt. Type species: *Bulbophyllum bowkettiae* F.M.Bailey

New combinations:

Serpenticaulis bowkettiae (F.M.Bailey) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum bowkettiae* F.M.Bailey, *Proc. Roy. Soc. Queensland* 1: 89 (1885).

Serpenticaulis johnsonii (T.E.Hunt) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum johnsonii* T.E.Hunt, *Proc. Roy. Soc. Queensland* 60: 60, t. 5, f. 1 (1949).

Serpenticaulis kirkwoodiae (T.E.Hunt) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum kirkwoodiae* T.E.Hunt, *Proc. Roy. Soc. Queensland* 60: 60, t.5, f. 1 (1949).

Serpenticaulis whitei (T.E.Hunt et Rupp) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum whitei* T.E.Hunt et Rupp, *Proc. Roy. Soc. Queensland* 60: 64-5 (1949).

Serpenticaulis wolfei (B.Gray et D. Jones) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Bulbophyllum wolfei* B.Gray et D. Jones, Austrobaileya 3(3): 331-333 (1991)

Subtribe: Eriinae Benth., *J.Linn. Soc., Bot.* 18: 287 (1881). Type: *Eria* Lindl.

11. *Bryobium* Lindl., *Nat. Syst.* (ed. 2) 446 (1836), *nom. nud.*; Edwards, *Bot. Reg.* 24, Misc. 79 (1838). Type species: *Bryobium pubescens* Lindl.

New combinations:

Bryobium dischorense (Schltr.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Eria dischorensis* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 1: 666 (1912).

Bryobium eriaeoides (F.M.Bailey) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Dendrobium eriaeoides* F.M.Bailey, *Syn. Queensl. fl. Suppl.* 2:56 (1888).

Bryobium irukandjianum (St.Cloud) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Eria irukandjiana* St.Cloud, *North Queensland Naturalist* 23(111): 1-2, f. (1955).

Bryobium queenslandicum (T.E.Hunt) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Eria queenslandica* T.E.Hunt, *North Queensland Naturalist* 15(85): 14 (1947).

12. *Hymeneria* (Lindl.) M.A.Clem. et D.L.Jones, *gen. et stat. nov.*
Basionym: *Eria* Lindl. sect. *Hymeneria* Lindl., J.Linn. Soc. 3: 52 (1859). Type species: *Eria obesa* Lindl., here designated (see below).

New combinations:

Hymeneria fitzalanii (F.Muell.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Eria fitzalanii* F.Muell., *S. Sci. Rec.* 2: 252-253 (1882).

Hymeneria kingii (F.Muell.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Eria kingii* F.Muell., *S. Sci. Rec.* 2 (4): 71-2 (1882).

Hymeneria obesa (Lindl.) M.A.Clem. et D.L.Jones, *comb. nov.*
Basionym: *Eria obesa* Lindl., Gen. Sp. Orch. Pl. 68 (1830).

Acknowledgements

We are grateful to Laurie Adams for the Latin diagnoses and discussions on nomenclature. We also wish to thank Marion Garratt, Karina FitzGerald and Ish Sharma for technical assistance. We thank numerous colleagues who have contributed to this study, in particular David Banks, Marcel Boulet, Jim Cootes, Ralph Crane†, Bruce Gray, Wayne Harris, Mike Harrison, T.Jaffre, John Riley, Lewis Roberts, Darryl Smedley, Phil Spence, Ron Tunstall and Ben Wallace.

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Annual General Meeting of ANOS Inc.
Gosford RSL Club on 3rd August 2002

The Annual General Meeting of the Australasian Native Orchid Society Incorporated will be held at the Gosford RSL Club on Saturday 3rd August 2002, commencing at 10.30am.

Any group or individual member who has matters to be included on the agenda, along with any nominations for positions on Council, should be in the secretaries hands no latter than one week prior to the AGM. Send these items to: The Secretary, ANOS Inc. P.O. Box 318, Willoughby NSW 2068.

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Nomenclatural Notes Arising from Studies in the Tribe Diurideae (Orchidaceae): Additions and a Correction

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Abstract

Corrections and omissions are provided for two preceding papers on the systematics of the Diurideae. New combinations are made in *Calcearia, Corunastylis, and Gastrosiphon*. A phylogenetic tree of the Diurideae is provided.

Introduction

Omissions and errors discovered after publishing papers relating to the systematic treatment of species in the Diurideae (Jones *et al* 2001, 2002) are published here. New combinations are made in *Calcearia, Corunastylis, and Gastrosiphon* and a phylogenetic tree of the Diurideae, which could not be accommodated in an earlier paper (Jones *et al* 2002), is presented.

TAXONOMY

TRIBE: Diurideae Endl.

SUBTRIBE: Acianthinae Schltr.

Calcearia Blume, *Bijdr.* 417 (20 Sept.- 7 Dec. 1825). Type species: *Calcearia picta* Blume.

New Combination

Calcearia karoensis (J.B.Comber et J.Dransf.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Corybas karoensis* J.B.Comber et J.Dransf., *Malayan Orch. Rev.* 29: 70-73, f., t. (1995).

Gastrosiphon (Schltr.) M.A.Clem. et D.L.Jones, Orchadian 13(10): 447 (2002).

New Combinations

Gastrosiphon scutellifera (J.B.Comber et J.Dransf.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Corybas scutelliferus* J.B.Comber et J.Dransf., *Malayan Orch. Rev.* 29: 74-75, f., t. (1995).

Gastrosiphon stenotribonos (J.B.Comber et J.Dransf.) M.A.Clem. et D.L.Jones, ***comb. nov.***
Basionym: *Corybas stenotribonos* J.B.Comber et J.Dransf., *Malayan Orch. Rev.* 29: 73-74, f., t. (1995).

SUBTRIBE: Prasophyllinae Schltr.

Corunastylis Fitzg., *Austral. orch.* 2(3): t.1 (1888). Type species: *Corunastylis apostasioides* Fitzg.

New Combination:

Corunastylis ostrina (D.L.Jones) D.L.Jones et M.A.Clem., ***comb. nov.***
Basionym: *Genoplesium ostrinum* D.L.Jones, *Orchadian* 13: 301-303, fig. 5, t. (2001).

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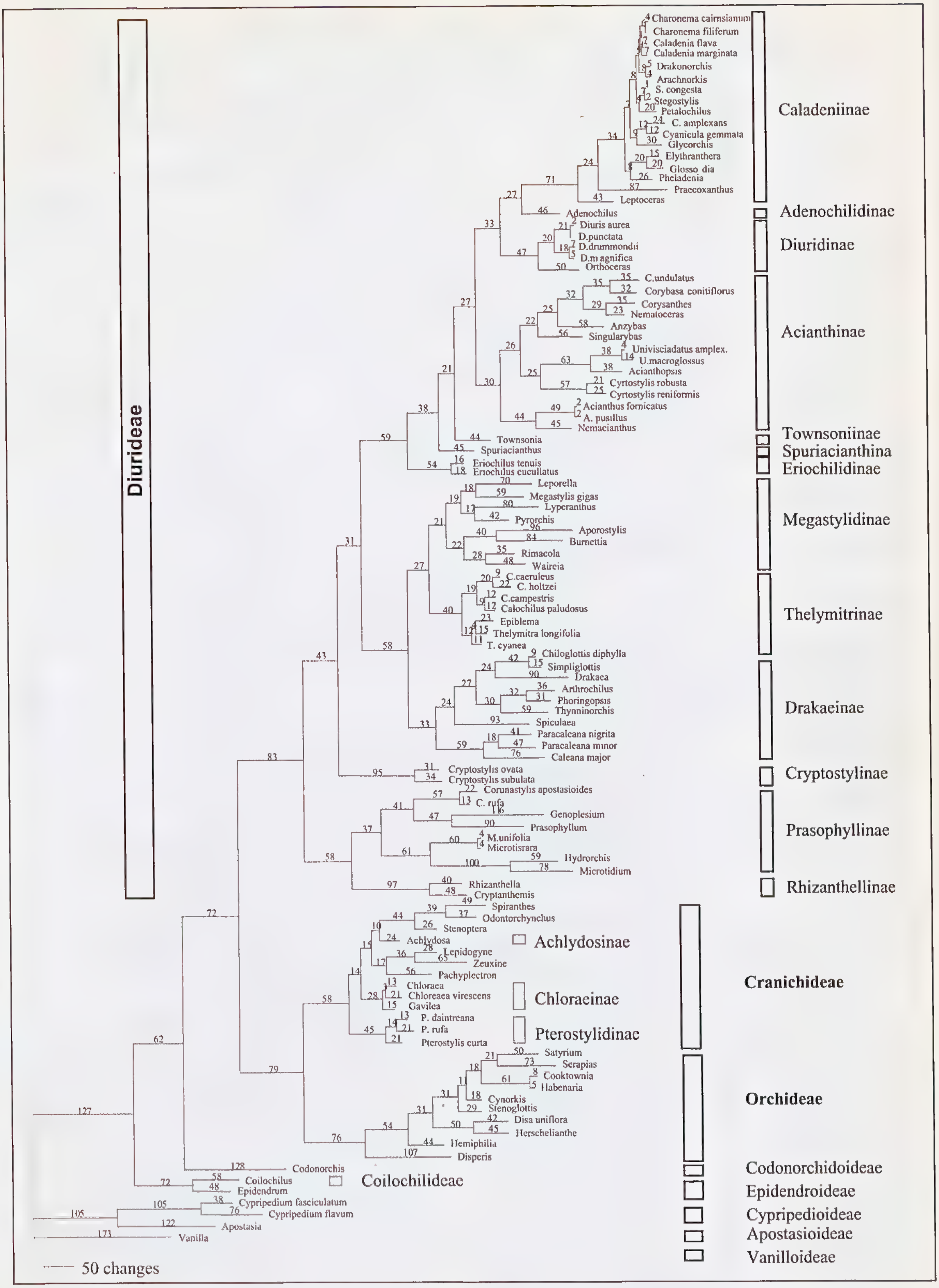

Phylogenetic tree of the Diurideae

New Australian Native Orchid Hybrid Registrations

New registrations from the Royal Horticultural Society (abridged from *The Orchid Review*)
October 2000 - December 2001 registrations.
Note: * indicates registered under the genus *Parachilus.*
as members of *Parasarcochilus* are now widely accepted as belonging to the genus *Sarcochilus.*

Name	Parentage	Registered by
Dendrobium		
Breeze	*kingianum* x Aussie Victory	Down Under N.O.
Bruce Murray	Class x Rutherford Blushing Bride	Down Under N.O.
Casarm	Brinawa Charm x Gracious Cascades	Down Under N.O.
Charming Gem	Brinawa Charm x Jesmond Gem	Down Under N.O.
Cobber	Aussie Treat x Candice	Down Under N.O.
Darlington Dream	Anne's Rainbow Surprise x Aussie Ira	H.A. Wilson
Darlington Luck	Ellen x Jamie Upton	H.A. Wilson
Darlington Royale	Pink Star x Aussie Ira	H.A. Wilson
Darlington Sprite	Lynette Banks x Aussie Ira	H.A. Wilson
Donovan	Elegant Heart x *kingianum*	Down Under N.O.
Dorrigo Surprise	Gulginni x Karen Nair	N. Mitchell (D. Sinclair)
Eddaz Cool	Edda x Peter	Russell Job
Egret	Brolga x Red River	N. Roper
Finlay	Lorikeet x Rutherford Blushing Bride	P. Grech (DUNO)
Fireball	Anne's Rainbow Surprise x Aussie Merit	G. Leafberg
Flighty	*bowmannii* x *kingianum*	W. Fisher
Florafest Beauty	Peewee x Gillieston Peach Fuzz	Florafest
Flute	Angellene x *speciosum*	N. Roper
Gillieston Peach Fuzz	Gillian Leaney x Karen Nair	Florafest (W. Skillicorn)
Glitter	Jesmond Glitter x Zip	N. Mitchell (J. Purvis)
Jaffa	Jesmond Glitter x Yondi Glow	Down Under N.O.
Jarrah	Brolga x Jeenga	N. Roper
Jaybird	*gracilicaule* x Bardo Rose	W. Fisher
Jonathan's Surprise	Jonathan's Glory x Gulginni	P. Blandford (T. Elgood)
Juliet's Love	Lustrous x Ellen	R. Manning (DUNO)
Justine	Candice x Ellen	R. Manning (DUNO)
Kansas Woolf	Ku-Ring-Gai x Zip	B. Rinke (J. Woolf)
Keldon	Glamour x Bicentennial Blush	P. Grech (W. Skillicorn)
Lawrose	Our Lawrence x Bardo Rose	Down Under N.O.
Maddie	Gillian Leaney x Star	M. Connell (O/U)
Moondarra	Warrior x Aussie Victory	K. Moore (DUNO)
Noah	Sun Star x Yondi	P. Grech (O/U)
Norman May	Ivory x Golden Nuggett	Down Under N.O.
Our Lawrence	Tooloom x Peter	Down Under N.O.
Our Reg	Brinawa Sunset x Vivid	Down Under N.O.
Regal Gillieston	Peewee x Regal Affair	W. Turville (W. Skillicorn)
Renee	Gillian Leaney x Tweed	K. Moore (O/U)
Salamaua	Vivid x Breeze	R. Manning (DUNO)
Splice	Burgundy Cream x Aussie Treat	Down Under N.O.
Sweet Sonia	Our Lawrence x Aussie Treat	R. Manning (DUNO)
Venessa	Class x Victorian Lady	Down Under N.O.
Yeti	Beast x Autumn	Down Under N.O.

Name	Parentage	Registered by
Sarcochilus		
Audrey	Sue x *hartmannii*	Simpson Orchids
Beverley Joan*	*hirticalcar* x Cherie	Simpson Orchids
Elise* *c*	*eciliae* x Nicky	D. Butler
Eva	*ceciliae* x Cherie	Simpson Orchids
Ginger	Cream Cake x Heidi	N. Roper
Misty*	Aussie Dawn x Riverdene	D. Butler
River Song*	Melody x Riverdene	D. Butler
Sophie	Redstone x *fitzgeraldii*	N. Roper
Tibrogargan	Cherie x Pinky	Simpson Orchids
Victor*	Nicky x *hartmannii*	Down Under N.O.
Zoe	Cherie Snow x Heidi	N. Roper
Thelymitra		
Seagull	*nuda* x *epipactoides*	Nesbitts

Maintaining Your Orchid Collection

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Late spring is the time that you should be doing the majority of your potting as most of the flowers have finished and all the young plants are starting to put on new growths. It's time to look at a maintenance program for your plants to bring them forward for the next years flowers.

Fertilising

To start with let us look at a fertilising program. It's not what you use, but to have a balanced program, that constantly and regularly nourishes and builds your plants.

Fertilisers are food for your plants. Plants cannot get by without food just as we cannot. They must, and do get nutrients from somewhere. However, depending on the potting media they are in, or on, and the type of plant they are could determine the best type of food suitable for them to obtain optimal growth. Optimal growth is what we strive for to get a good healthy root system that will generate the biggest bulbs so that the plant can have strong fat healthy inflorescences loaded with beautiful flowers. Look after the root system and the plant will look after itself.

All fertilisers are designed to give plants a boost in one direction either growth or fruit so they can grow and reproduce through their flowers, and flowers is what we are after 99% of the time.

You see the letters N:P:K on fertiliser labels. Do you know what they stand for and what they do for your plants?

Nitrogen (N) Gives leaf, stem and fruit growth. Gives dark green colours to foliage, and improves the quality of the leaf. It produces rapid growth and increases protein content of plants.

Phosphorous (P) Stimulates early root formation and hastens maturity and gives a rapid and vigorous start to plants. Also stimulates blooming and aids fruit formation.

Potassium (K) Gives increased vigour and decisive resistance to plants, improves seed quality and is essential to formation and transfer of starches, sugar and oils in the plant system.

As well as this you might see **Calcium (Ca)**, which influences absorption of plant nutrients, neutralises acid condition in soil or compost, it promotes early root growth and formation and neutralises toxic compounds produced in the plant.

Types of Fertilisers

Chemical

Peters, Phostragen, Campbells, Aquasol, HSO.
All of these are basically the same. Chemical salts, which are prepared in quantities by the manufacturer according to the plants to be fed and the potting mix, used. Trace elements may be added to make a more balanced mix. All these must be mixed with water and sprayed or watered over the plants using a flow proportioner and hose or a watering can.
Advantages. Easily mixed with water, mostly soluble. Easily dispensed over a plant and absorbed by the root system and foliage.
Disadvantages. Very little used by the plant. The majority will go into the soil or down the drain.

Natural or Organic

Garden party, Chicken Pellets, Cow or Horse manure, Feathers 'N' Fins, Blood 'N' Bone.
All organic based can be used dry, as a dressing or soaked in water as a concentrate and mixed in a watering can.
Advantages. More readily taken up by the plant.
Disadvantages. May smell!

Slow Release

Osmacote, Nutricote
A pelletised mix more suitable to Cymbidiums and dense potting mixes but can be successfully used with bark mixes. 3, 4, 5, 6 or 9-month variations available. Uses a combination of water and warmth to slowly wear down the coating and release the nutrients to the plant.
Advantages. Easy to apply, and when it rains it fertilises as well.
Disadvantages. Easy to over dose and may release more than you intended to at one time.

When to Fertilise

Morning, Evening? Depends on the time of year. I have had many discussions on this subject and I won't go into the technical reasons here except to say that I water and fertilise in the morning when the plants are more receptive to take in nutrients through their root system and the leaves. I will continue on hot days to spray the leaves on dusk or early evening on hot summer days to cool the plants and water under the benches for added humidity.

Media

Bark, Bark and Styrene Foam, Sphagnum Moss, Stones, Absorba Stone, Sand. Mounts of hardwood, Australian treefern, and cork. Media that contains a large amount of bark is constantly decomposing due to microbial activity and is accelerated by watering and fertilising; this causes a reduction of soluble nitrogen in the mix, called 'Nitrogen Drawdown'. To combat, some advocate a higher nitrogen content in the fertiliser.

Whatever you use, that is suitable for your area, it is better if all your collection is in the same type of mix and pots.

Additives

Trace Elements (a good fertiliser will not require any additives), Lime for pH correction, Calcium see above, KDL (Liquid Potassium), root starters (hormones). These are used to revive plants and stimulate root activity.

Use of a Wetting Agent

If you want to get more out of your fertiliser and have more of it taken up by the plant, as well as paying for less water, I recommend the use of a good wetter. WA100 is one and Chemspray have one and others are available. You don't use much, but you could cut your water bill by as much as 25%.

Water

Must have it! Rainwater for preference, from the sky or from a drum collected from rain. If this is not available then I can tell you that Sydney water is some of the best in the world for you and your plants. The crunch is this, no one can tell you how often to water your plants. This will depend on the microclimate in your back yard. How much sunshine you get during the day and how much wind your plants receive. The quicker your plants dry out the more water your plants can and should have. You may even have to change your mix to suit your conditions. If the mix stays too wet use a more open mix. The most important thing is to make sure that your plants roots can breathe air. They must not remain wet and saturated or like you they will drown and the plant will stress and expire.

This is the program we use:

October:
Starting the first weekend I will give all our plants and orchids a good solid watering with a solution of 'Garden Party' at a weak ratio of 1.5 ml per litre then follow this up every weekend (rain or shine) for the rest of the month with Peters 'Blossom Booster'

November:
First weekend all our orchids receive a good watering with a solution of 'Garden Party' at a weak ratio of 1.5 ml per litre then follow this up every weekend (rain or shine) for the rest of the month with Peters 'Excel Hi-Mag'.

December:
First weekend all our orchids receive a good watering with a solution of 'Garden Party' at a weak ratio of 1.5 ml per litre then follow this up every weekend (rain or shine) for the rest of the month with Peters 'Blossom Booster'.

January:
Cut out the 'Garden Party'. We are back to the Peters 'Excel Hi-Mag' again (rain or shine), every weekend.

February:
We are back to the Peters 'Blossom Booster' again (rain or shine), every weekend.

March:
We are back to the Peters 'Excel Hi-Mag' again (rain or shine), every weekend.

April:
1st weekend Lime the plants with Microfine Lime at the rate of 1.5 gms per litre. You will have to get somebody to help here to stir the tank as it won't stay suspended, or mix in a watering can and water over the plants. This is done to stop any acid build-up in the potting mix and bring the mix back to a more even pH, which will help them absorb more nutrients. You can mix fertiliser with this as well. We are back to the Peters 'Blossom Booster' again (rain or shine), every weekend.

Bugs and Fungus
In November, hopefully you will have finished potting, you should spray for bugs Carbaryl or similar. Do it on a still day and watch for phototoxicity. Leave it for 2 weeks and spray with Mancozeb to protect new growths form diseases. Follow up the bug spray in 3 to 4 weeks. Keep Cinnamon and Fongarid handy for rots.

I nearly forgot. With each fertilising I make up a batch of concentrate and use a proportional sprayer. To the fertilising concentrate I add 'Condys Crystals - Potassium Permanganate' at a rate of 50 ppm or 15 mils this equates to 15mls per 300 litres of water from the spray head. This acts as a bactericide, helps oxygenate the roots and the plant can take up the potassium a well.

Lastly a mix that I have been using, courtesy of Phil Spence, sprinkled over the bark before I pot. Wet the bark and sprinkle a little 'pinch' over it and mix the bark around till all is covered. The roots love it. (Unfortunately you're going to have to crush the super phosphate)!

2270 gms	Hoof and horn or blood meal.
115 gms	potassium nitrate.
115 gms	Potassium sulphate.
1135 gms	Single super phosphate.
3400 gms	Dolomite lime.
1135 gms	Calcium carbonite lime.

Then you can sit back and watch your plants grow!

✿

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Minimising the Effects of Low Temperatures

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With winter around the corner, I will discuss some ways of reducing the effects of extreme cold on your plants. First, let me say that it is only possible to minimise the effects of low temperatures by a certain degree (excuse the pun!). Most orchids will tolerate a temperature about 5°C lower than would be the minimum in their natural environment. But no orchid will tolerate being frozen, so if you are unable to protect your plants from heavy frosts, you will need to increase the greenhouse temperature artificially, or give up and grow snow peas!

Aspect

The location of the orchid house in your yard is important. An aspect facing between east and north will catch early morning sun and help your plants warm up quicker after a cold night. Basically the shorter exposure to low temperatures, the better your plants will be.

Watering

This is perhaps the most commonly abused part of orchid culture and certainly the most important. If you don't get your watering right, you will never be a successful orchid grower. A number of factors influence the frequency and time of watering. Most orchids, especially the epiphytes, don't like being wet, especially in cold weather and of an evening.

The habitat of many of the so-called tropical orchids does not preclude cold winter nights; however, it seldom rains during cold weather. This is the classic pattern of wet and dry seasons. On the odd cold winter night in north Queensland, I have been told you can sometimes see frost on the ground around trees where *Dendrobium bigibbum* grows. However, winter days usually dawn fine and sunny, and the plants warm up very quickly.

Rainfall is confined to the warmer (growing) months. Therefore, be careful when and how you water in winter. I suggest watering only on sunny days around mid-morning. This gives your orchids the maximum opportunity to dry off before the cold night sets in. In winter, if the weather is overcast, humidity will be high and the plants will survive quite well without being watered.

Housing

If you live in an area that receives regular winter rain, you may need to place a solid roof (either glass, fibreglass or laserlite) over your orchids during winter. This will not protect the plants from cold but will allow you to water at the time suggested above.

Unless you are growing in an artificially heated house, watering with warm or tepid water is a waste of time. It is also important to maintain the potting compost in good condition, and to make sure that your pots are well drained.

Good air movement around your plants will also help them to dry out, and is especially recommended in winter, when the quicker the pots dry, the better.

In conclusion, good orchid growing is a matter of common sense. Take notice of your plants, try to interpret the signals they are sending you, and above all, try to understand how your plants want to grow. The greatest pleasure you will get from your orchids is to grow them well.

✿

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Erecting A Glasshouse: The Structure

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Are you thinking of building a glasshouse? Most of us who are permanently infected with the orchid bug have one. I even know one poor, hopelessly addicted member who has three! Some orchid growers go for fancy, custom-built designs on brick bases but most settle for the DIY type with aluminium frames, which can be erected in a weekend with the assistance of a gullible friend with an adjustable spanner.

The first decision to make is where to site the glasshouse. The best spot is where the Hills Hoist is located, as it's usually the sunniest spot in the garden. My son did exactly that – he bought his wife one of those folding clothes lines that fit on the house wall, dismantled the Hills Hoist and built the glasshouse over the concrete path that formerly led to it. There was only one problem – a few years later he and his wife decided to move house, and so I spent a couple of days in January helping him move his glasshouse several kilometres to the east! Fortunately the job wasn't as involved as starting from scratch, as we used a furniture van to move each of the walls intact without dismantling them (apart from removing the glass). On the basis of experience gained during the erection of three glasshouses (one of them twice!) I offer the following advice to those planning to erect a glasshouse for the first time.

Having decided on the best spot for the glasshouse, you need to decide which way it should face. Generally, it's best to site the glasshouse with one of its long sides facing north, so that it receives as much light as possible during the winter months. Aluminium glasshouses should be built on a base, such as a brick or concrete wall, although a heavy timber frame is much quicker and easier to construct. In the case of my son's glasshouse, the base is made of four lengths of treated pine (cross-section, 100 x 100 mm), fastened together at each corner with metal brackets. Each corner of this base sits on a level concrete slab (450 x 450 mm). Because the site is sloping, additional smaller slabs were used at the low end to level the base. It's very important to use a good spirit level and builder's square to ensure that the base is both horizontal and square.

My son and I then placed the four sides in position on the base and bolted them together, followed by the gable roof frame. At this stage it's critical to use a large builder's square to ensure that all four wall frames and both of the sloping roof frames are completely square. After adjustment they should be fixed in position with the diagonal braces that are provided as part of the kit. If you don't get your angles right, you're likely to fit most of the glass panes and then find that the final ones won't fit! Make sure that the frame is squarely situated on its base and then fasten it down with wood screws (because of the weight there's no way you can move the frame after you've fitted the glass).

Now comes the hard bit, digging a trench for the electrician to install his power line. It has to be 600 mm deep, which is easier to type than to dig! Fortunately your plumber can use the same trench to install the water pipe. I recommend the installation of two double waterproof power points, one at each end of the glasshouse, and at least three threaded water taps. You'll need power outlets for one or two fans, for an evaporative cooler, for solenoid valves to operate fogging and/or misting systems and for an electric heater, unless you decide to use gas (which means digging another trench!). Taps will be needed for the fogging and/or misting systems and for the cistern that feeds water to the evaporative cooler, not to mention one for hand-watering the orchids.

I've forgotten to mention benches for the plants. Make sure that they will fit through the doorway before fitting the glass! Yes, I agree that it's a dreadful hassle and expense installing a glasshouse, but they certainly are appreciated once they're in operation!

✿

The Recovery of *Pterostylis* sp. "Botany Bay"

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Introduction

Pterostylis sp. "Botany Bay" is related to *P. plumosa* (A. Bishop J221/1-13) and still lacks a formal name, despite been discovered at Maroubra back in 1908 and through this time has remained an enigmatic species. With only about 300 plants known, it is a rare and endangered orchid.

Brief History

Pterostylis sp. "Botany Bay" was first collected from Maroubra in 1908 by Boyle and was identified as *P. barbata* (a closely related Western Australian species). The next collections were made in the 1960's, being part of surveys identifying the vegetation of the Kurnell Penisula and were again labelled as *P. barbata.* Leo Cady subsequently reviewed *P. barbata* in 1969 with *P. plumosa* being described and becoming the name for the separated species in New South Wales.

In 1979, I became aware of the previous existence of this orchid when an article in the *The Orchadian* {6(6): 138} made mention of it growing at Maroubra with the comment that the habitat was "very sandy". I spent a number of years searching the northern side of Botany Bay but to no avail.

In the early 1990's, the records of the earlier 1960's findings were rediscovered and this began the search on the southern side of Botany Bay. The Late Tony Bishop won the honours by rediscovering the orchid. The orchid was recognised by David Jones as a distinct taxon and it was recognised as an endangered species under the *Threatened Species Conservation Act, 1995* (NSW).

It's Conservation

The three positive conservation aspects of *Pterostylis* sp. "Botany Bay" is that it is found in Botany Bay National Park. Therefore there are no problems in securing protected habitat. As it is the only known location, it would be foolish to collect this species as it would be easy to prove the plants had been illegally collected. Further the orchids are extremely difficult to locate and involve penetrating some very inhospitable vegetation to get there.

There are however, a number of conservation concerns. The first is the small number of plants. Since the recovery process has been in operation the number of known plants has increased from 149 plants to 320 plants. This increase in number is due to additional populations being found and natural increase. In addition, there is a concern that the plants could be at risk of inappropriate management of the area, especially fires. Recent fire history includes a hazard reduction burn in 1983 and a wildfire in 1992. Fires during winter or a hot burn could threaten the entire population.

The Recovery Process

The recovery process initially consisted of searching all potential habit north and south of Botany Bay including likely sites from Manly to Royal National Park. The second stage presently involves the monitoring of the orchids to learn more of the population dynamics. It appears that the populations are increasing in number from a relatively low base. Hopefully an effective management plan can be put in place.

A Conservation Issue

One possible conservation strategy would be to flask this orchid and make the species available to growers. This would create a safety net for the species against some disaster happening in the wild. The negative aspect of this is that it creates a legitimate pool of orchids in cultivation that could be used to camouflage illegal collecting. My own view it that such a scheme would only be justified if the propagation of the orchid was ongoing so that there was a continuous supply of orchids for cultivation. In addition the location of the orchid would need to remain secret to ensure that illegal collectors do not threaten the site.

Pterostylis sp. "Botany Bay" is one of the jewels of Sydney's quickly disappearing orchid species. At least there is hope of preservation.

✿

Notes on the Southern Forms of *Sarcochilus australis*

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The recent September 2001 article, "A bit about *Sarcochilus australis"* by Gerry Walsh reminded me of the unique behaviour that this species has shown me in the southern regions of its distribution. In trying to understand this coolest growing southern monopodial orchid, I decided to begin fieldwork in Tasmania. In 1979 my residential orchid house was ready for plants, and phone enquiries with orchid people led me to ring Laurie McInnes from Smithton. He was a font of local knowledge and had rescued, relocated and encouraged local enthusiasm for this rare and shy plant. This recollection from 20 years ago is still fresh as I realised that this man knew more about the distribution of this 'butterfly orchid' than anyone else in Tasmania.

It was not very long before I found myself on a plane for Smithton and the adrenaline flow powered over the Bass Strait. This channel of water existed in the time of the dinosaurs at a latitude of 70 degrees when the land was continuous from Launceston to Venezuela. It remained so for about 10 million years after the local Hypsophilodonts (large eyed cool dinosaurs) disappeared. Then in an almost unbelievable catastrophe, what is now the central region of Tasmania rifted apart by a few miles and 2000 miles long within an hour or so and out flowed an enormous amount of magma that took 30,000 years to cool.

Later, Tasmania and South America broke off from Antarctica and moved toward the Equator. Subsequent lateral squeezing has pushed up the dolerite dykes that comprise Cradle Mountain, south past the Arthur Ranges in Tasmania, Macquarie Island, to Mt. Melbourne and beyond in Antarctica. Local extinctions and fallout were a major consequence of all this and yet the botany of eastern Tasmania is very different from the older western region.

Not far from Wynyard, Laurie turned left along a small road, went a kilometre and stopped by a scarcely broken patch of wet sclerophyll forest. There at eye level were many roots along the tree bark and the *Sarcochilus australis* plants were flowering profusely. It was well shaded, and there were many ferns nearby. Most of the orchids were on trees locally called 'dogwood', *Pomaderris apetala*. These had little flowers with stamens and pistils but no petals. Commonly, plants were at this height but there were also 'twig' plants at the ends of branches. The distribution of the plants was sporadic; they were not rare but highly endangered. Away from the main road the devastation of logging was horrific.

Many isolated habitats were visited around Smithton in the next few days and hundreds of orchids, including late flowering terrestrials were seen. Travelling south around the Roger River area *Sarcochilus australis* was in a similar wet sclerophyll forest dominated with *Eucalyptus* and many small bushy trees including the dogwood's understorey. Instead of leaf litter on the floor there was live *Sphagnum* moss. It was so quiet and still, the humidity so fresh and high.

The chance recognition of the voice of a Tin mine manager on the neighbour's short wave transceiver, brought us the opportunity to travel south to Balfour. *Leptospermum* and low heath plains separated the river systems lined by eucalypts. No more epiphytes were seen further south. The Tarkine area was not yet accessible to visit as a likely home for *Sarcochilus.* No epiphytic orchids were found in the rainforest, even though many people mistake rainforest for wet eucalypt forest. Later exploration of areas to the east of the squeezed up mountains showed no more *Sarcochilus australis.* However, *Dockrillia striolata* subsp. *chrysantha* occurs in the northeast coast on granite rocks from St. Marys to the Bicheno area.

In western Victoria the first *Sarcochilus australis* habitat found was inland from Melba Gully (rainforest) and Lavers Hill. The species composition of the forests was more diverse than Tasmania and *Pomaderris* scarcely seen. The prickly *Coprosma quadrifida* was the main host, but the occurrence of *Sarcochilus australis* proved to be much more rare and isolated. On the higher parts of the Otway Peninsular, no

Sarcochilus were found in the apparently suitable regions until the eastern slopes closer to Apollo Bay at about 300 metres altitude.
In the East Gippsland region the most westerly occurrence of *Sarcochilus australis* we found along the Mitchell River north of Glenaladale between Sale and Bairnsdale. It was at a lower altitude than in West Gippsland. An increase in species diversity of big trees was apparent. Not only prickly *Coprosma* was acting as a host, but also a new trend became apparent as we travelled east of Orbost. The swamp gum (*Tristania laurina*) was becoming the dominant host species.

Dozens of fern species were noticed but the orchid-rich zones were of similar complexity as seen earlier. Always close to water, some sites had large numbers of orchids on the best trees. In the Alfred National Park at a place called Karloo Creek, the *Tristania* host alongside the road sign was home to hundreds of orchids.

Many roots were so long that it was not possible to work out which tuft of leaves belonged to a particular root. Because of the monopodial growth habit of these plants both in elongation and self-division, it was possible to see that there were not many plants over 20 years old. The tree was about 30 metres high and over a hundred years old. Both on trunk and end of branch, these transient plants were similar in habit and disposition to the Tasmanian examples.

There were small variations of green, brown and some purple spots on the flowers. Most of the plants on any particular tree appeared to be identical to each other. Where there were different siblings it was obvious to the now calibrated eye.

In the anomalous forests of far eastern Victoria the components in detail change between each remnant major population. At greater distances in separation this process of changing habitats that can support *Sarcochilus australis* continues north into New South Wales. With such hypersensitive and fastidious requirements to have suitable niches over such a large latitude range and yet not occur in eastern Tasmania (just like the old rainforests in which it does *not* occur) just boggles the mind!

Simplistic analysts who put different pins in maps for each of the epiphyte species, wave their hands and say they all came from Asia. They have assumed that catastrophes have not been a potent shaping force on the remnant environments that so characterise Australia.

Coming from South Australia where an unstressed environment and closed canopy development disappeared at least several million years ago, these paradoxes may be more obvious.

The importance of cloud forests and geological upheaval on the evolution of epiphytes in and beyond these regions, have subsequently taken me (and partner) to the other continents to see the evidence that illustrates the circumstances that have differentiated Orchidaceae beyond the other Families.

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Annual General Meeting of ANOS Inc. Gosford RSL Club on 3rd August 2002

The Annual General Meeting of the Australasian Native Orchid Society Incorporated will be held at the Gosford RSL Club on Saturday 3rd August 2002, commencing at 10.30am.

Any group or individual member who has matters to be included on the agenda, along with any nominations for positions on Council, should be in the secretaries hands no latter than one week prior to the AGM. Send these items to: The Secretary, ANOS Inc. P.O. Box 318, Willoughby NSW 2068.

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Book Review

The Wollemi Pine: The Incredible Discovery of a Living Fossil from the Age of the Dinosaurs.

James Woodford. Text Publishing, Melbourne.
ISBN 1 876485 48 5 RRP - AUD$27

The Wollemi Pine (*Wollemia nobilis*) is a species that has captured the imagination of the people of the world since its serendipitous discovery and the later media announcement in late 1994.

My own fascination with the species comes from two angles. My interest in plants has taken me on a scientific journey through the realm of both modern botany and palaeobotany, with a strong emphasis on both the bizarre and the threatened. The other angle is that which sees me intimately involved with its hiding place, and the fact that I grew up not far from it and probably have walked within a few hundred metres of its hiding place in my explorations of the canyons.

Hiding in the deep gorges and tight canyons of the Wollemi to the northwest of Sydney it is truly a species that has been around since the time of the dinosaurs. A tall and stately tree with two distinct leaf and branch types it is a conifer that easily captures the imagination. Not so long ago it was much more plentiful, and up until three million years ago made a regular appearance in the fossil pollen record. With other features like a coppicing nature and the 'coco-pops' bark it is sure to become a spectacular addition to horticulture. The species is brought to life in this book, and features are revealed that will cause us to stop and think on a few different fronts.

The book itself is very easily read. I found myself unable to be distracted from it, much to the chagrin of my wife and children. The style is clear and light, and being written by the science and environment writer for the *Sydney Morning Herald* one would really expect little else. The expressions used throughout the book show an open-minded awe at the wonders of nature, and the graphic descriptions used by the author serve to increase the enjoyment of the text. The chapters follow a chronological sequence, from the discovery and early work on naming the tree and gaining basic ecological data, through the scientific work conducted on its genetic variability, and finishing with the future of the species, destined to become one of the most sought-after trees when it is released in 2005.

Why would someone with an interest in orchids write this review for the orchid-growing public? I can only find one place in the book where orchids are graphically mentioned – '... like bunches of bananas, clung to the wall of the cliff and others lay scattered on the ground...' But I would hope that we aren't all too closed-minded to take an interest in the other wonders of nature, including this species, which evolved well before the orchids.

On a final personal note it was amusing to see so many friends pop up in the text, including some who I didn't realise would have had any connection with the tree. In fact among the longest associations anyone has with the tree is by Wayne Harris, known to many orchid growers around Brisbane and also the national registrar of ANOS judges. He described the fossilised pollen of a *Wollemia* species as *Dilwynites* in 1963.

I recommend the book to anyone interested in plants, and truly hope that you enjoy it as much as I did. As to whether the average person should really have one in their yard is clearly answered by John Benson, a botanist at the Royal Botanic Gardens in the epilogue. He states that people who put one in their backyard will soon have no backyard!

Greg Steenbeeke
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Four New Species of *Habenaria* Willd. (Orchidaceae) from Australia and a New Combination for a Species from New Guinea

a201793

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Abstract

Habenaria euryloba, H. fuscina, H. halata, and *H. vatia* are described as new and a new combination at species rank is made for *H. elongata* var. *leptophylla* Renz.

Introduction

Habenaria Willd. is a large unwieldy terrestrial genus which is badly in need of modern revisionary studies. In particular, a phylogenetic treatment based preferably on combined morphological and molecular studies, would clarify relationships with allied genera and the placement of several readily identifiable natural groups presently included within the genus (see for example Seidenfaden 1977, Dockrill 1969, 1992). *Habenaria* was reviewed for Australia in 1920 (Rogers & White 1920), but since then *Peristylus* Blume was recognised and delimited (Seidenfaden 1977, Lavarack 1981); the types of Australian taxa studied (Clements 1989); new species of *Habenaria* described (Lavarack 1984, Jones 1998a,b, Lavarack & Dockrill 1999); and the genus *Cooktownia* erected (Jones 1997)

The Australian flora contains about 11 described species of *Habenaria*. As a result of wet season field work by the author on Cape York Peninsula, Torres Strait Islands and the Top End of the Northern Territory, four new species are described and illustrated in this paper.

Methods

This study is based on the examination of fresh flowers collected from localities in northern Australia, living plants of known provenance cultivated in the collection of the Australian National Botanic Gardens, Canberra, the examination of dried and spirit-preserved herbarium specimens and photographs of living flowers. All relevant types or photographs of types of Australian taxa have been examined. Herbarium collections (spirit and dried) were studied from AD, BRI, CANB, DNA, LAE, MEL and NSW. Measurements given in the descriptions are from living plants or spirit-preserved specimens.

Taxonomy

1. *Habenaria euryloba* D.L. Jones sp. nov., *H. praecox* Lavarack et Dockrill affinis, sed labelli lobis lateralibus multo brevioribus, lobo medio multo latiore contracto; et sepali dorsalis calcare latiore formae dissimilis, differt.

Typus: Queensland. Cook District: Cape York Peninsula, W of Cockatoo Ck, 26 January 1992, *D.L. Jones 8960 & C.H. Broers* (holo CANB, iso BRI).

Tuberous terrestrial herb. Tubers vertical, ellipsoid, 2.5-3.5 cm long, 1.2-1.5 cm wide, fleshy. Leaves obliquely erect, 2 or 3 in a loose radical rosette, lanceolate to elliptical, 7-11 cm long, 8-11 mm wide, green, subacute. Inflorescence 25-50 cm tall, slender, 8-20-flowered. Sterile bracts 5-7, ovate-lanceolate, 10-22 mm long, 2-3 mm wide, linear-acuminate to subacute, sheathing at the base. Fertile bracts ovate-lanceolate, 4-7 mm long, 2-3 mm wide, long-acuminate, hardly sheathing. Pedicels 2.5-3.5 mm long, slender. Ovary linear, 8-10 mm long, c. 1.4 mm wide, curved near the apex. Flowers obliquely erect to porrect, c. 12 mm diam., white, sweetly fragrant, not crowded. Dorsal sepal obliquely erect, broadly elliptical-ovate, 4-5 mm long, 2.7-3 mm wide, slightly cucullate, 3 lines visible, apex incurved. Lateral sepals widely divergent, asymmetrically ovate-lanceolate, 5-6 mm long, 2.3-2.5 mm wide, apex cymbiform to apiculate. Petals erect, broadly ovate-lanceolate, 4.5-5 mm long, c. 2.5 mm wide, asymmetrical, obtuse. Labellum porrect to decurved, c. 7 mm long, c. 7.5 mm wide, deeply trilobate; base c. 1.5 mm long, c. 2.5 mm wide; lateral lobes narrowly divergent close to the mid-lobe, linear-tapered, c. 3.5 mm long, 1.3 mm wide, entire, subacute; mid-lobe porrect in proximal half, decurved in distal half, broadly linear-tapered, c. 4 mm long, c. 2 mm wide, entire, obtuse to subacute. Spur nearly straight, the apex slightly curved, 7-8 mm long, c. 2.3 mm wide at the base, broadest and white in proximal half, narrow-terete and green in distal half, obtuse. Column porrect, c. 3 mm long, c. 2.2 mm wide, c. 2 mm thick; auricles c. 1.2 mm long, cylindrical. Anther c. 2.4 mm long, obtuse, the anther sacs widely separated; anther channels c. 0.6 mm long, comma-shaped. Rostellum hardly visible. Pollinarium c. 2 mm long, c. 0.6 mm wide; pollinia clavate, yellow, granular; caudicles c. 0.3 mm long; viscidium c. 0.4 mm long, elliptical. Capsules linear-obovoid, 13-15 mm long, c. 3 mm wide, erect. **Fig. 1.**

Distribution and ecology

Known with certainty only from the type locality but doubtless more widespread and undercollected due to difficulty of access to suitable habitat during the wet season. The

Notes

Habenaria euryloba is generally similar to *H. fuscina*, *H. halata* and *H. praecox* but can be distinguished by the labellum mid-lobe being much broader than the lateral lobes and tapered from near the base to the apex. Its labellum spur is also prominently dilated in the proximal half being about 2.3 mm wide at the base.

This species was discovered during a wet season trip to the Heathlands area of Cape York Peninsula organised by The Royal Geographical Society of Queensland (Jones & Broers 1993). Its flowers are sweetly scented during the day.

Conservation Status

Poorly known and not known to be conserved; suggest 1K by the criteria of Briggs & Leigh (1996).

Etymology:

From the Greek *eurys*, broad, wide and *lobos*, lobe, in reference to the broad labellum mid-lobe.

2. *Habenaria fuscina* D.L. Jones sp. nov., *H. praecox* Lavarack et Dockrill affinis, sed labelli lobo medio brevi, obtuso, lobis lateralibus lobo medio approximatis, labelli calcari apice truncato-lobato ornato, et columnae auriculis prominentibus, differt.

Typus: Queensland. Cook District: Bramwell Swamp, c. 28 km S of Heathlands junction, Cape York Peninsula, 25 Jan. 1992, *D.L. Jones 8943 & C.H. Broers* (holo CANB).

Tuberous terrestrial herb growing in loose colonies. Tubers ovoid to obovoid, 1-2 cm long, 0.5-1.5 cm wide, fleshy, somewhat irregular. Leaves obliquely erect to spreading, 2-3 in a loose radical rosette, lanceolate, 5-12 cm long, 1.2-1.6 cm wide, dark green, subacute. Inflorescence 20-35 cm tall, slender, wiry, 8-15-flowered. Sterile bracts 5-8, narrowly ovate-lanceolate, 10-35 mm long, 2-8 mm wide, sheathing at the base, long-acuminate. Pedicels slender, 1-3 mm long, straight or slightly curved. Ovary linear-ovoid, 10-15 mm long, c. 2.5 mm wide, narrowed and curved near the apex. Flowers 6-10 mm diam., green and white, fragrant, well spaced. Dorsal sepal erect, cucullate, broadly ovate to broadly ovate-lanceolate, 4.5-5.5 mm long, 3-3.5 mm wide, 3-nerved, broadly obtuse. Lateral sepals divergent, ovate-lanceolate, 4.5-5.5 mm long, 2-2.5 mm wide, asymmetric, 3-nerved, broadly obtuse. Petals erect and partly embracing the dorsal sepal, ovate-lanceolate, 5-5.5 mm long, 2-2.5 mm wide, asymmetric, apex obtuse. Labellum obliquely deflexed, 6-7.5 mm long, 5-6 mm wide when flattened, deeply trilobate; base c. 2.3 mm long, c. 2.5 mm wide; lateral lobes narrowly linear-tapered, 4.5-5.5 mm long, c. 1 mm wide, remaining relatively close to the mid-lobe, apex subobtuse; mid-lobe narrowly linear, c. 4 mm long, c. 1 mm wide, entire, apex obtuse. Spur terete, c. 8-9 mm long, c. 1.8 mm diam. at the base, narrowed distally, straight to shallowly curved, the apex greenish, truncate-lobed. Column porrect, c. 3 mm long, c. 2.8 mm wide, c. 2.5 mm thick; auricles linear-cylindrical c. 0.8 mm long, obtuse; stigmophores cylindrical, curved c. 0.7 mm long. Anther with a blunt apex, the anther sacs widely separated; anther channels linear, c. 0.3 mm long. Rostellum vestigial. Pollinia oblong, c. 0.5 mm long, 0.3 mm wide, yellow, sectile; caudicle c. 0.3 mm long; viscidium c. 0.2 mm long, elliptical. Capsules erect, narrowly obovoid, 14-18 mm long, 2-3 mm wide. **Fig. 2.**

Distribution and ecology

Known only from the type locality on northern Cape York Peninsula, Queensland but doubtless more widespread. It grows in moist to wet dark sandy soils among grass and forbs in *Melaleuca viridiflora* wetland. Flowering period: February to April.

Recognition

This species has similarities with *H. halata* and *H. praecox* but can be distinguished by the lateral lobes of the labellum remaining relatively close to the mid-lobe, the linear (non-tapered), broadly obtuse mid-lobe and the unusual truncate-lobate apex on the labellum spur. By contrast both *H. neglecta* and *H. praecox* have widely divergent lateral lobes, tapered labellum mid-lobe and an entire spur.

Notes

This species was discovered by the author during a wet season trip to the Heathlands area of Cape York Peninsula organised by the Geographical Society of Queensland (Jones & Broers 1993). It is part of a complex of white-flowered species which have a distinctly three-lobed labellum resembling a trident.

Conservation status

Poorly known and not conserved; suggest 2K by criteria of Briggs & Leigh (1996).
species grows among grass and sedges in low, sparse woodland dominated by *Melaleuca viridiflora*. The soil is a grey sandy loam which becomes inundated and spewy during the wet season. Flowering period: December to February.

Etymology

From the Latin *fuscina*, trident or three-pronged fork, in reference to the labellum shape.

3. *Habenaria halata* D.L. Jones sp. nov. *H. praecox* Lavarack et Dockrill affinis, sed labelli lobo medio angustiore, lobis lateralibus longioribus, latioribus, late divergentibus; sepale dorsale beviore latiore; et sepalis lateralibus minus falcatis, differt.

Typus: Northern Territory. Yarrawonga Swamp, 20 km E of Darwin, 15 Dec. 1984, *D.L. Jones 1740* (holo DNA).

Illustration: Plate 111, Brennan (1986).

Tuberous terrestrial herb growing in loose groups. Tubers broadly ovoid, 1.5-3 cm long, 1-1.8 cm wide, fleshy, somewhat irregular. Leaves obliquely erect, 2 or 3, loosely radical, linear-lanceolate, 4-7 cm long, 5-8 mm wide, dark green, subacute to apiculate. Inflorescence 30-50 cm tall, slender, wiry, 7-18-flowered. Sterile bracts 5-7, narrowly ovate-lanceolate, 8-22 mm long, 2-3 mm wide, sheathing at the base, long-acuminate. Fertile bracts narrowly ovate-lanceolate, 5-16 mm long, 2-3 mm wide, base sheathing. Pedicels slender, 1-3 mm long, straight or slightly curved. Ovary linear, 10-12 mm long, c. 1.5 mm wide, curved near the apex. Flowers c. 10 mm diam., white, fragrant, moderately spaced. Dorsal sepal erect, broadly ovate, 3.7-4 mm long, 3.3-3.5 mm wide, cucullate, 3-nerved, apex and distal margins slightly erose. Lateral sepals widely divergent, ovate-lanceolate, 4.5-5 mm long, 2.5-3 mm wide, asymmetric, 3-nerved, apex irregularly erose. Petals erect, more or less ovate-lanceolate, 4.5-5 mm long, 2.3-2.6 mm wide, anterior margin near base with a shallow, rounded flange, apex obtuse. Labellum obliquely deflexed, c. 6.5 mm long, 11 mm wide when flattened, deeply trilobate; base c. 2 mm long, c. 3 mm wide; lateral lobes widely divergent, curved upwards near the tips, narrowly linear, c. 5.5 mm long, c. 1 mm wide, distal margins slightly erose, apex obtuse to subacute; mid-lobe obliquely deflexed, narrowly linear, c. 4.5 mm long, c. 1.6 mm wide, margins slightly irregular, apex subacute to obtuse. Spur shallowly recurved in distal half, c. 9 mm long, constricted near the middle, dilated towards the apex. Column porrect, c. 3 mm long, 3 mm wide, 3.5 mm thick; auricles linear-cylindrical, c. 5 mm long, obtuse; stigmophores cylindrical, c. 0.5 mm long. Anther with a blunt apex, the anther sacs widely separated; anther channels clavate, c. 0.3 mm long. Rostellum vestigial. Pollinia ovoid, c. 1.2 mm long, 0.6 mm wide, yellow, sectile; caudicle c. 0.4 mm long; viscidium c. 0.2 mm long, elliptical. Capsules erect, narrowly obovoid, 14-16 mm long, 3-4 mm wide. **Fig. 3.**

Distribution and ecology

Widespread in northern parts of the NT and the northern Kimberley Region of WA, between the Carson River and Beverley Springs Station. Grows close to streams and among low shrubs, grasses and sedges in *Melaleuca* woodland, in grey sandy soils which are inundated during the wet season. Flowering period: December to February.

Recognition

Habenaria halata has similarities with *H. fuscina* but can be readily distinguished by the much narrower labellum mid-lobe and the long, narrowly linear, widely divergent lateral lobes. These differences are also applicable to the recently described *H. praecox* from Queensland (Lavarack & Dockrill 1999) which has a strongly tapered labellum mid-lobe and lateral lobes.

Notes

Although it is probably the commonest species of the genus in the Northern Territory, *H. halata* has been overlooked by previous botanists possibly due to confusion with other taxa, particularly *H. ferdinandi* Schltr. and *H. graminea* Lindl. The latter species was described from India but its erroneous recording from Australia (Mueller 1869-71, Bentham 1873) caused confusion. More recently, *H. neglecta* has also been confused with *H. eurystoma* Schltr (Jones in herb. DNA) which is a synonym of *H. ochroleuca* R.Br.

Dixon (1994) gives details of this species from the northern Kimberley region.

The flowers of *H.halata* have a strong sweet or spicy perfume during the day.

Conservation Status

Widely distributed, locally common and conserved.

Etymology

From the Latin *halatus*, odor, fragrance, perfume.

Specimens examined

Northern Territory: Tortilla, 8 Jan. 1968, *Byrnes 1262* (DNA); 65 km NE. Pine Ck, 14 Jan. 1977, *Dunlop 4323* (DNA); *ibid*, 30 Nov. 1980, *Dunlop 5610* (DNA); Katherine Gorge Natl. Pk, 4 Feb. 1980, *Dunlop 5216* (DNA); Angularli Ck, Murganella-Oenpelli Rd, 9 Feb. 1984, *Jones 1360* (DNA); Jabiru, swamp N. of airport, 11 Dec. 1984, *Jones 1715* (CANB, DNA); Bees Ck, 11 Jan. 1979, *Rankin 1684* (DNA).

4. *Habenaria vatia* D.L. Jones sp. nov. *H. praecox* Lavarack et Dockrill affinis, sed planta robustiore; foliis majoribus; sepalis longioribus; labelli lobo medio longiore angustiore, lobis lateralibus multo longioribus angustatis divergentibus; et sepali dorsalis calcare longiore, differt.

Typus: Queensland. Cook District: cultivated Australian National Botanic Gardens ex c. 1 km NE of airport, Kubin, Moa Island, Torres Strait *D.L.Jones 3640,* 24 Oct. 1990, *D.L.Jones 6792* (holo CANB, iso BRI).

Tuberous terrestrial herb growing in loose colonies. Tubers ovoid to obovoid, 1.5-2.5 cm long, 1.5 - 2.5 cm wide, fleshy, somewhat irregular. Leaves obliquely erect to spreading, 3-5, lanceolate, 6-10 cm long, 1-1.8 cm wide, dark green, radical, subacute. Inflorescence 30-50 cm tall, slender, wiry, 15-25-flowered. Sterile bracts 5 or 6, narrowly ovate-lanceolate, 7-18 mm long, 2-3 mm wide, sheathing at the base, long-acuminate. Pedicels slender, 1-3 mm long, straight or slightly curved. Ovary linear-ovoid, 12-14 mm long, c. 2 mm wide, narrowed and curved near the apex. Flowers c. 16 mm diam., white, fragrant, moderately spaced, the dorsal sepal and petals forming a loose galea. Dorsal sepal erect, broadly ovate, 4-4.5 mm long, 3-3.5 mm wide, cucullate, 3-nerved, broadly obtuse. Lateral sepals widely divergent, ovate-lanceolate, 5-5.5 mm long, c. 2 mm wide, asymmetric, 3-nerved, broadly obtuse. Petals erect and partly embracing the dorsal sepal, ovate-lanceolate, 4.5-5 mm long, 2.4-2.7 mm wide, asymmetric, apex obtuse to shallowly emarginate,. Labellum c. 8 mm long, c. 15.5 mm wide when flattened, deeply trilobate, the mid-lobe obliquely deflexed, the lateral lobes widely divergent, curved outwards in the distal half; base c. 2 mm long, c. 3.3 mm wide; lateral lobes narrowly linear-tapered, c. 8 mm long, c. 1.3 mm wide at the base, falcate in the distal third, apex subacute to obtuse; mid-lobe narrowly linear, c. 6 mm long, c. 1 mm wide, entire or slightly irregular, apex subacute to obtuse. Spur c. 14 mm long, slightly curved, dilated at each end. Column porrect, c. 3 mm long, c. 3 mm wide, c. 3 mm thick; auricles linear-cylindrical. c. 0.5 mm long, obtuse; stigmophores cylindrical, c. 1.5 mm long. Anther with a blunt apex, the anther sacs widely separated; anther channels linear, c. 1 mm long. Rostellum vestigial. Pollinarium of 2 pollinia, caudicle and viscidium; pollinia ovoid, c. 0.7 mm long, 0.4 mm wide, yellow, sectile; caudicle c. 0.4 mm long; viscidium c. 0.3 mm long, elliptical. Capsules erect, narrowly obovoid, 14-16 mm long, 3-4 mm wide. **Fig. 4.**

Distribution and ecology

Occurs on Moa Island in the Torres Strait where it is locally common. It is probably more widely distributed than this, but the exact range is uncertain due to inadequate collections and confusion with other taxa. It grows amongst grass and low shrubs in sparse woodland in black clay soils which are inundated during the wet season. Flowering period: December and January.

Notes

H. vatia is similar to *H. halata* but is much more robust with 3-5 large leaves in a well-defined rosette. It also has larger flowers with longer sepals, longer labellum spur and the labellum has a longer mid-lobe and much longer, outcurved, tapered lateral lobes.

Conservation Status

Locally common on lowland parts of Moa Island but not known to be conserved.

Etymology

From the Latin *vatius*, outcurved, bent outwards; in reference to the curved lateral lobes of the labellum.

New Combination:

Habenaria leptophylla (Renz) D.L. Jones, comb. nov.

Basionym: *Habenaria elongata* R.Br. var. *leptophylla* Renz, *Pl. Syst. Evol.* 155: 330 (1987). Type: Papua New Guinea: Central Prov.: Waigani, in pratis udis, c. 50 m s.m., 2 March 1978, *J. Renz 11877* (holo herb Renz, Basilea).

Distribution and Ecology

Central Province, Papua New Guinea. Grows in grassland and sparse grassy forest. Flowering period: February-March.

Notes

This taxon has similarities with *H. elongata* R.Br. and *H. triplonema* Schltr but is readily distinguished from both by its narrow leaves (3-8 mm wide) (Renz 1987). Its flower colour (yellow, yellow-green, citron and white) is more similar to that of *H. triplonema* than *H. elongata* which is basically white but the lateral lobes of the labellum are straight as in *H. elongata*, not convolute as in *H. triplonema*. Because of these differences I consider this taxon best treated at specific rank.

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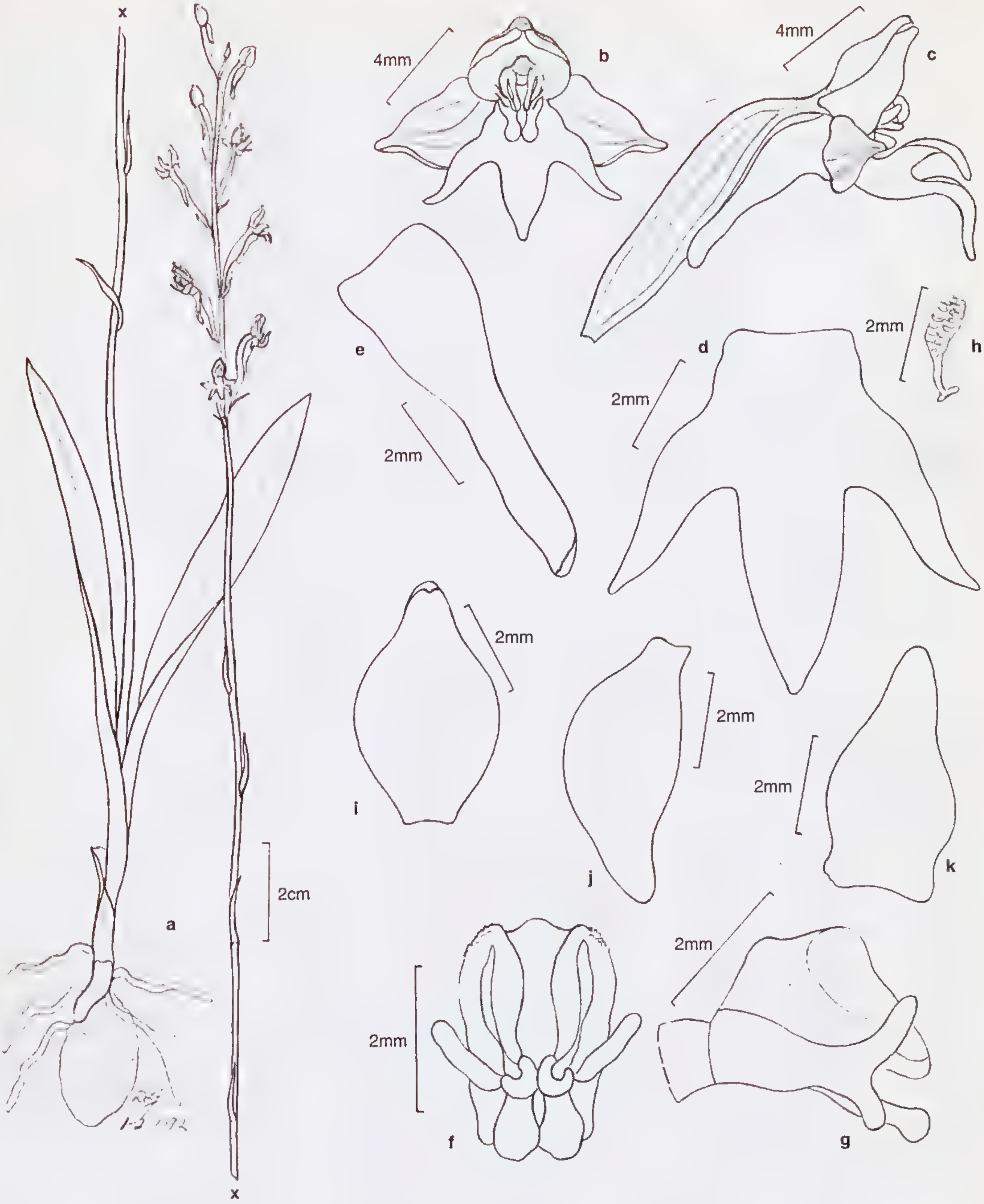
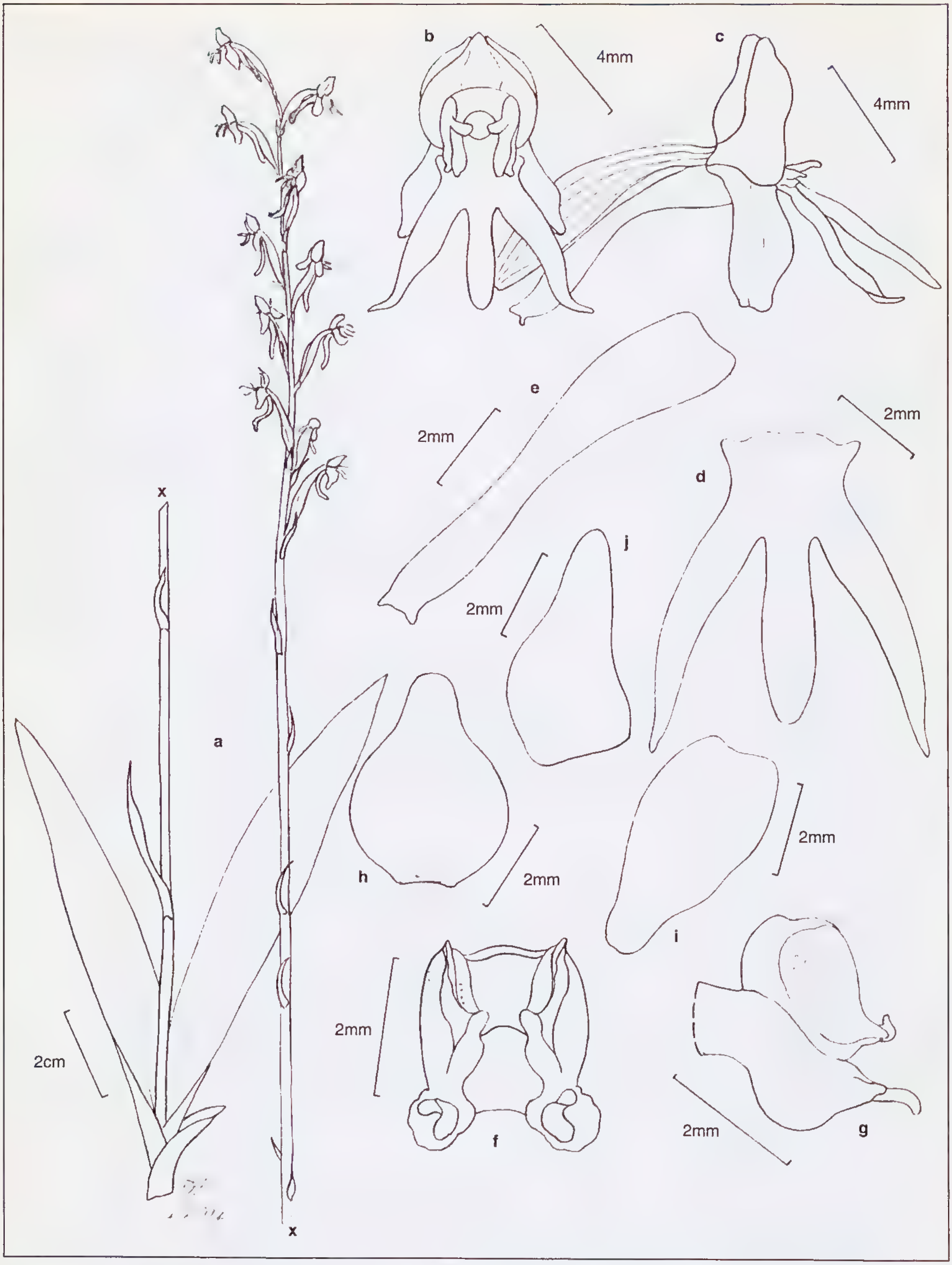


***Habenaria euryloba*, west of Cockatoo Creek – Queensland**

(*D.L. Jones 8960*) drawn from type collection, **Fig. 1.**

a. plant; **b**. flower from front; **c**. flower from side; **d**. labellum from above, flattened out; **e**. spur; **f**. column from front; **g**. column from side; **h**. pollinarium; **i**. dorsal sepal; **j**. lateral sepal; **k**. petal.

Drawing 1/2/1992 by D.L. Jones. ©

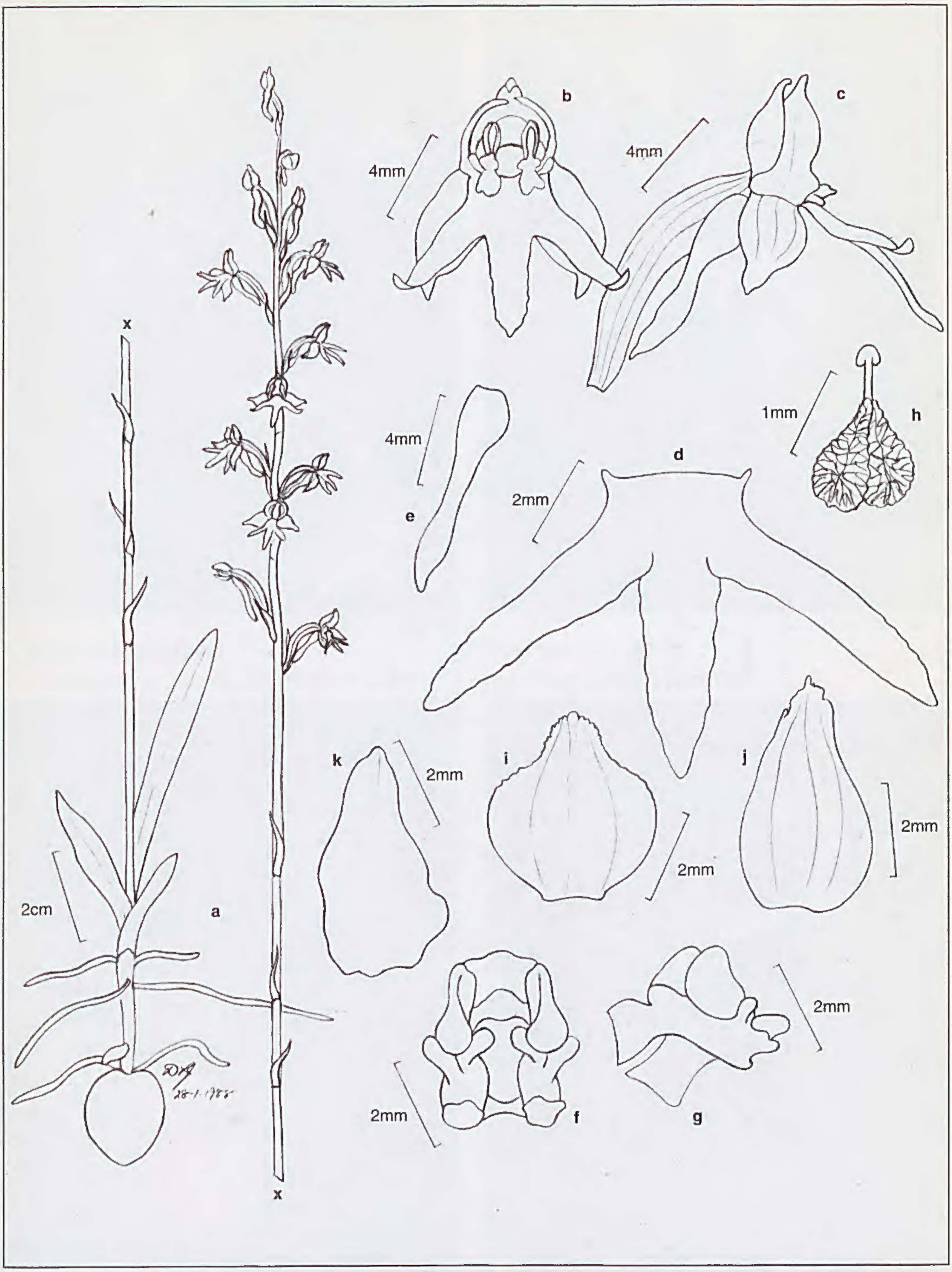


***Habenaria fuscina*, Bramwell Swamp – Cape York Peninsula, Queensland**

(*D.L. Jones 8943 & C.H. Broers*) drawn from type collection, **Fig. 2.**

a. plant; **b**. flower from front; **c**. flower from side; **d**. labellum from above, flattened out; **e**. spur; **f**. column from front; **g**. column from side; **h**. dorsal sepal; **i**. lateral sepal; **j**. petal.

Drawing 4/2/1994 by D.L. Jones. ©

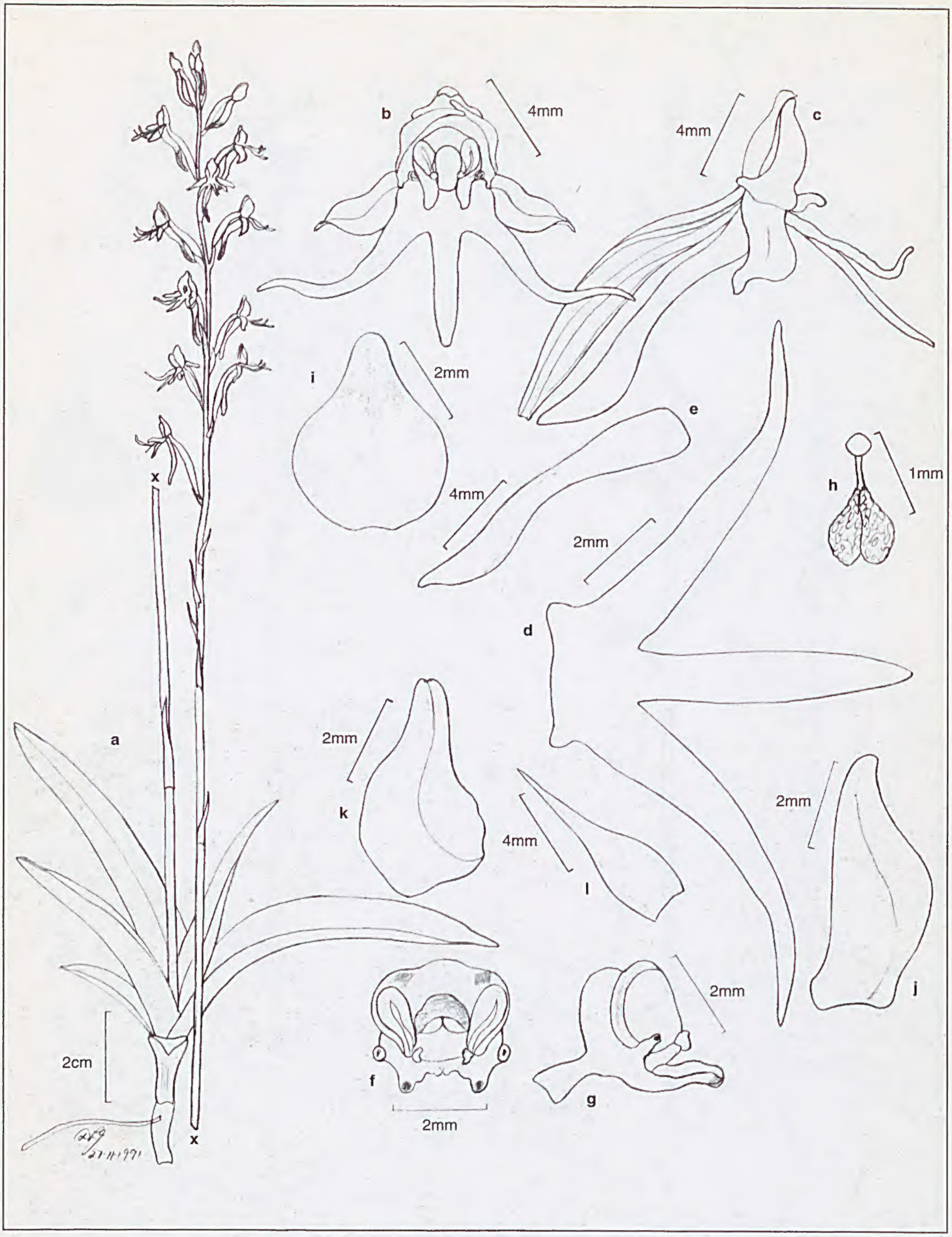


***Habenaria halata*, Yarrawonga Swamp, near Darwin – Northern Territory**

(*G. Wightman*), **Fig. 3.**

a. plant; **b**. flower from front; **c**. flower from side; **d**. labellum from above, flattened out; **e**. spur; **f**. column from front; **g**. column from side; **h**. pollinarium; **i**. dorsal sepal; **j**. lateral sepal; **k**.petal.

Drawing 28/1/1988 by D.L. Jones. ©

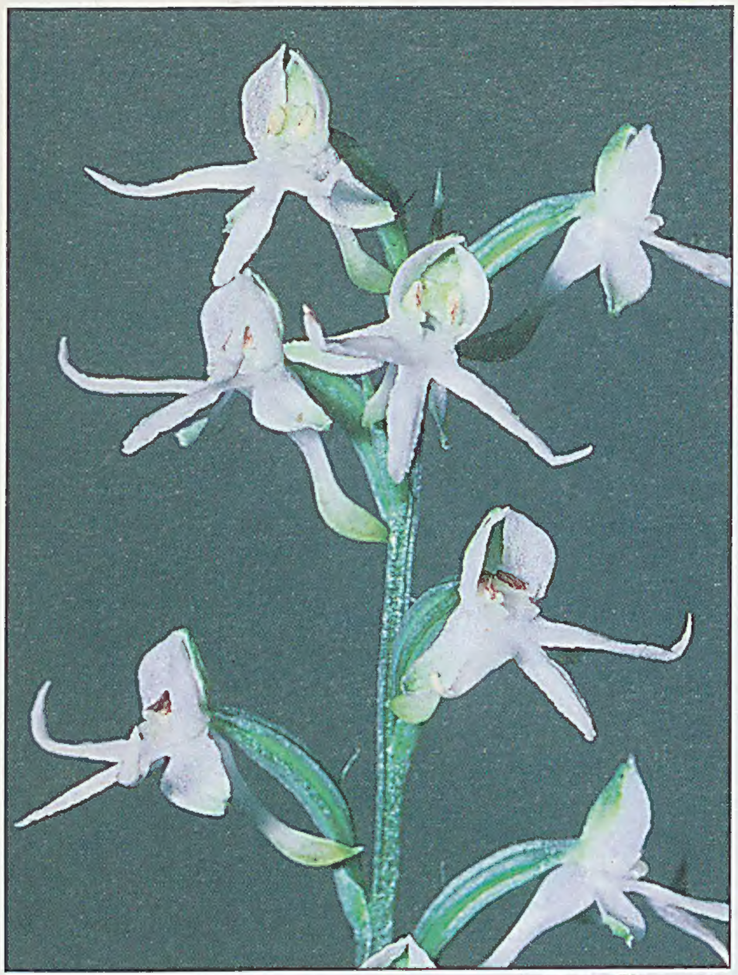


***Habenaria vatia*, Moa Island – Queensland.**

(*D.L. Jones 3640*), **Fig. 4.**

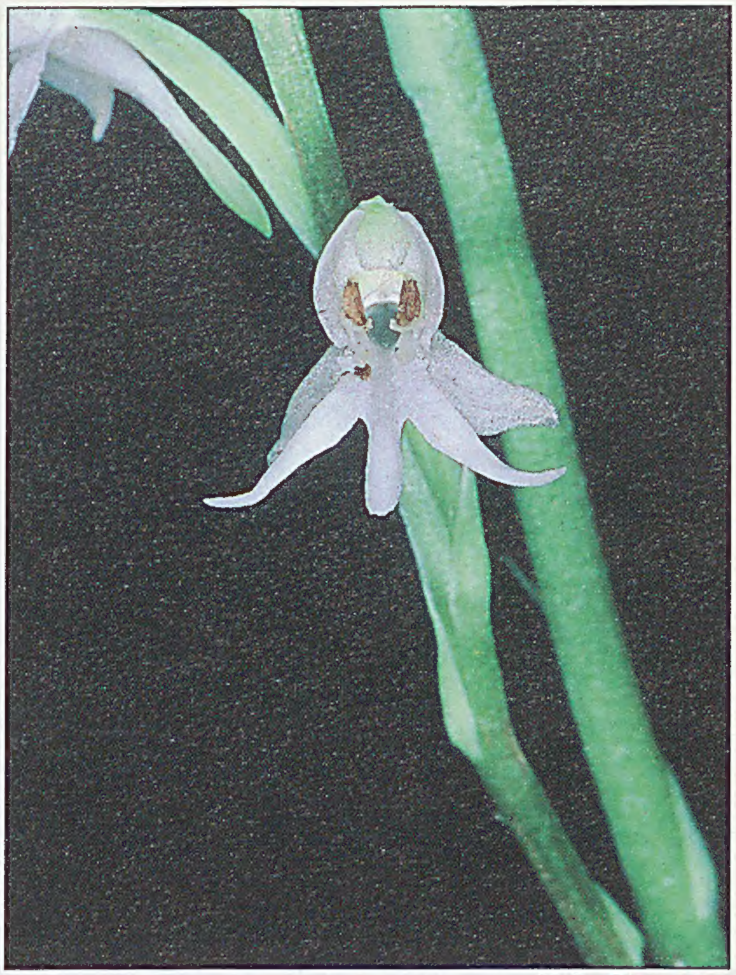
a. plant; **b**. flower from front; **c**. flower from side; **d**. labellum from above, flattened out; **e**. spur; **f**. column from front; **g**. column from side; **h**. pollinarium; **i**. dorsal sepal; **j**. lateral sepal; **k**. petal; **l**. floral bract.

Drawing 27/11/1991 by D.L. Jones. ©



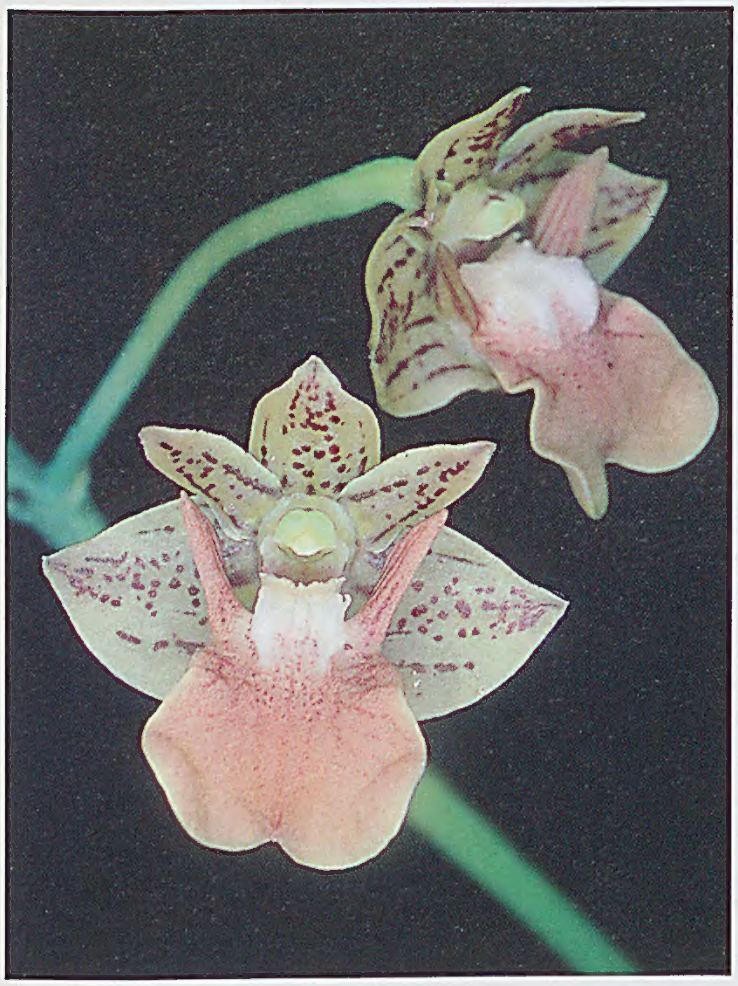
M.A. Clements

Habenaria halata
from Yarrawonga Swamp, Northern Territory



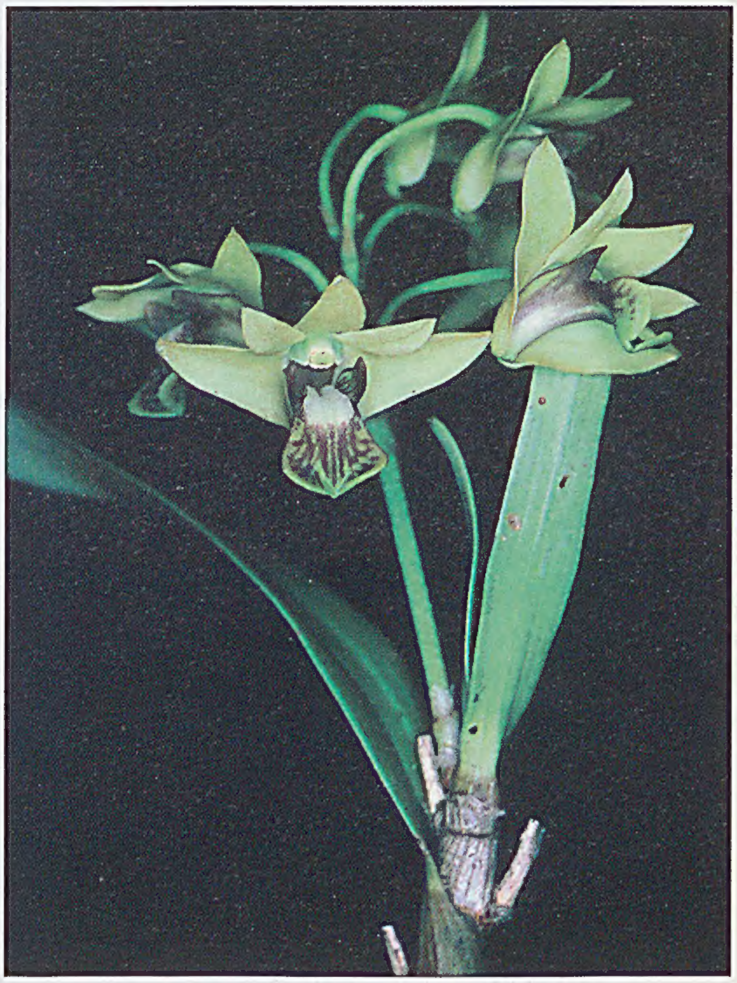
M.A. Clements

Habenaria vatia
from Moa Island, Queensland



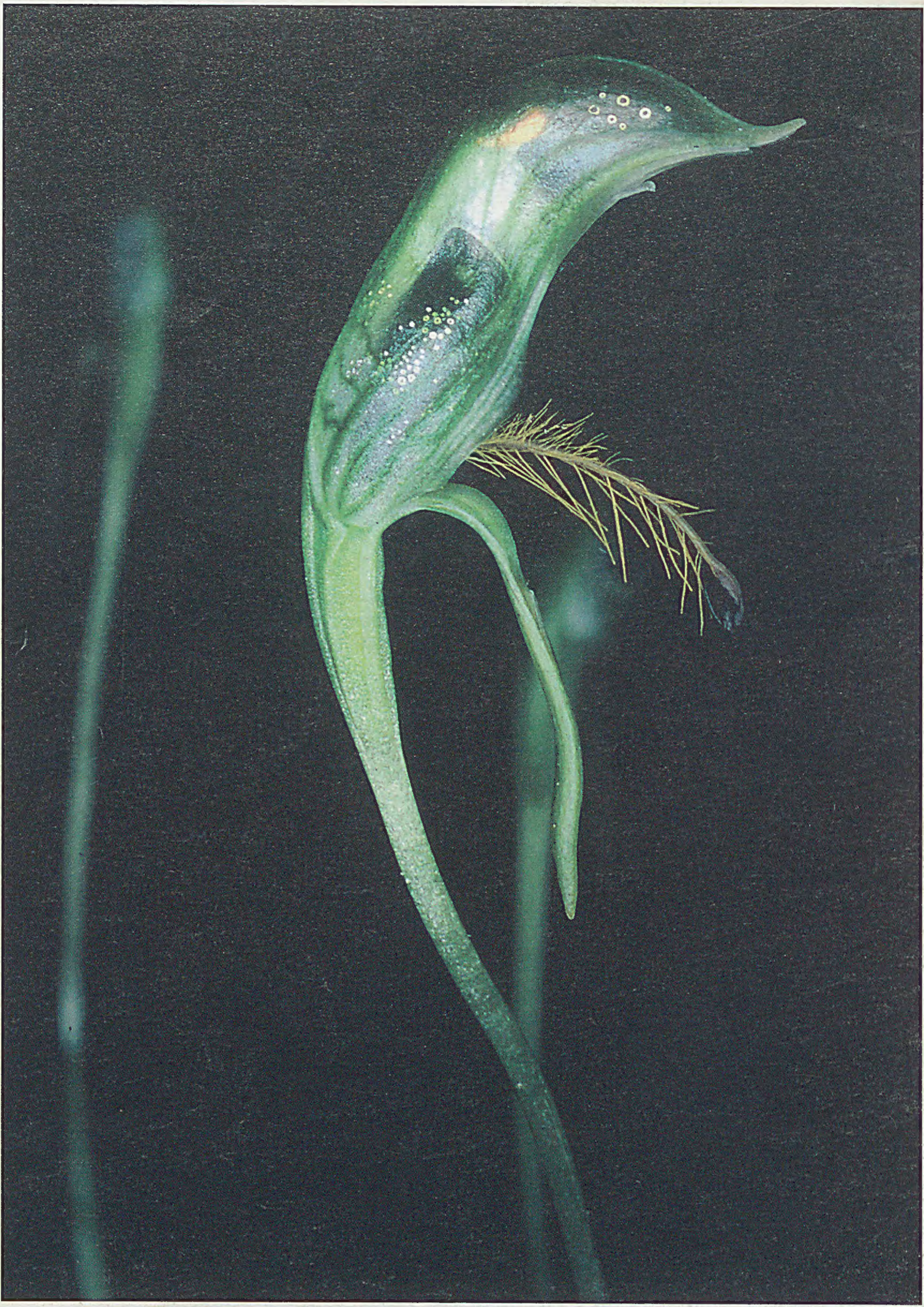
D.P. Banks

Leioanthum bifalce
from North Queensland and New Guinea



D.P. Banks

Eleutheroglossum fellowsii
from North Queensland



David Titmuss

***Pterostylis* sp. aff. *plumosa* "Botany Bay"**

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